Clinical Lectures ON GRAVES' DISEASE.

Delivered at the Hospital for Consumption and Diseases of the Chest, Brompton,

By HECTOR W. G. MACKENZIE, M.A., M.D.,
ASSISTANT PHYSICIAN TO THE HOSPITAL, MEDICAL REGISTRAR TO ST. THOMAS'S HOSPITAL, AND ASSISTANT PHYSICIAN AND PATHOLOGIST TO THE ROYAL FREE HOSPITAL.

LECTURE II.

GENTLEMEN,—In my last lecture I briefly described the various symptoms which cluster round the well-known phenomena of Graves' disease. I shall to-day proceed to consider the natural course and duration of the disease, and its terminations in recovery or death. Now, taking into account the length of time that the disease has been recognised and its comparative frequency in this and other countries, it is surprising that so little is definitely known about this matter and that such contradictory statements are made by different writers on the subject. Fagge[1] and Charcot[2] take the most hopeful view, both believing that recovery is the common result and death exceptional. Bristowe,[3] although of opinion that the disease is not usually dangerous to life, thinks that recovery is rare and that in a large number of cases the disease is slowly progressive, at best after a while becoming stationary. Gowers,[4] Hardy,[5] and Eulenberg[6] take a gloomy view, considering the prognosis as grave and death not infrequent. None of these writers, however, bring forward facts to support their conclusions. Fagge, indeed, admits that he knows of no positive evidence in support of his opinion. When incomplete I think all will agree that the disease is rarely fatal, but I shall bring forward some evidence to show that when well marked there is reason to believe it is dangerous to life. Trousseau in his lectures points out that there are two forms of the disease: one rapid and acute, the other slow and chronic—the former of rare occurrence; the latter the common type.

The shortest case I have heard of is one mentioned by Dr. Moore at a meeting of the Irish Medical Academy,[7] where the symptoms came on in a young girl on reading a letter telling her of her brother's death, and were of only two days' duration. Solbrig[8] published one of a boy aged eight, who suffered from palpitation, enlargement of the thyroid, and prominence of the eyes, and completely recovered after twelve days. Müller[9] has recently reported a case in a girl aged ten years and a half, who recovered in six weeks. She had extreme awkwardness in the movements of the hands, frequent vomiting, lassitude, and pains all over the body, followed by exophthalmos and swelling of the thyroid. Bamberger[10] and Michell Clarke[11] have each reported an acute case where death took place within six weeks of the onset of symptoms. Trousseau relates the case of a boy aged fourteen years and a half, who had symptoms of the disease for three months, when acute paroxysms of dyspnœa came on. These were relieved by bleeding, and all the symptoms subsided within four months of their onset. In five fatal cases at Guy's, Fagge says the disease was of recent origin. Fletcher[12] gives two striking instances of the rapid form of the disease characterised by emaciation, exophthalmos, goitre, and palpitation, both ending in complete recovery in a month or two.

Such cases are, however, extremely rare, and I have no example of this form to bring forward. It is evident from the recorded cases that complete recovery is more common than death. A considerable number of the chronic cases commence more or less acutely, as the history of the sudden onset of the symptoms indicates. The chronic character of the disease was well illustrated by the cases I showed at the last lecture, where the symptoms had lasted from six months to several years. The cases I shall show you to-day are still more chronic, varying in duration between six and twenty years. That the duration of the disease is, as a rule, to be measured by years is a generally accepted fact.

At the discussion at the Ophthalmological Society in 1886[13] very few actual recoveries were mentioned. Mr. Hutchinson mentioned the case of a gentleman who in 1872 had well-marked symptoms, exophthalmos, goitre, palpitation, and nervousness. In 1886 he was in excellent health, no exophthalmos, and only slight fulness in the neck. Dr. Hill Griffith mentioned a patient who, having had Graves' disease twelve years previously, still had right exophthalmos and enlargement of the thyroid on the right side. Of ten patients who were in St. Thomas's Hospital during the years 1878–80, four cannot be traced, two have recovered and are here to-day, one still suffers from the disease, and the other three are dead. I shall presently tell you of another case of recovery in a patient in St. Thomas's Hospital three years ago. Hale White[14] found that of twelve patients who had been in Guy's Hospital in recent years, seven had died, four had recovered, and one was still suffering from the disease. Russell[15] has reported a striking instance of recovery. A girl with exophthalmos, goitre, extreme emaciation, and intensely irritable nervous system recovered entirely, and nine years later the recovery seemed permanent. Gowers mentions a patient, twenty years under observation, in whom well-marked symptoms entirely passed away. Trousseau mentions a case of recovery after three years, but the case was not followed up. Undoubtedly, then, patients do recover, but in view of the heavy mortality which is indicated by the figures of Hale White and myself—ten deaths out of eighteen—and the few cases of actual recovery which can be brought forward, I do not think Fagge's statement that most cases end in recovery is borne out. Trousseau remarked that when recovery took place there always remained swelling and induration of the thyroid, with prominence of the eyeballs. You will observe in both the patients here to-day as cases of recovery that there is some fulness in the thyroid region, and in both there is exophthalmos—in the man moderate, in the woman extreme. In the other case of recovery of which I shall tell you, as in Mr. Hutchinson's case, the exophthalmos—formerly marked—has disappeared, and only slight thyroid fulness remains. In one of the chronic cases I shall show you the goitre has entirely disappeared, although all the symptoms are still severe. In two others the exophthalmos has much subsided. At the time the woman came under Dr. Bristowe's care, which was about five years after the onset of her symptoms, the goitre had quite disappeared and the exophthalmos was not conspicuous. There seems, therefore, to be no rule that one can lay down in this matter. Nor does there seem to be any rule as to the time which elapses before recovery. In two of my cases the symptoms had existed two years, in another ten years, before they disappeared. All but one of the very chronic cases I shall show you seem to be progressing towards recovery.

Death occurs, according to Eulenberg, from marasmus and intercurrent diseases. Bristowe says when death takes place it is mostly the consequence of some intercurrent affection, more especially of the lungs, but in rare cases the thyroidal tumour causes death by pressure on the trachea. Now, during the last ten years we have had six fatal cases at St. Thomas's Hospital, and I have accounts of two which proved fatal outside. Of these eight deaths, one was from bronchitis and two from cardiac disease, while the remaining five seemed to be directly due to the disease—one arising from an attack of dyspnœa, one from marasmus, and the other three being sudden, probably from syncope. The duration of the disease in one case was two years, while in the other seven it averaged about six years. Of seven fatal cases mentioned by Hale White, five died from intercurrent diseases and the other two suddenly. One of the latter cases is particularly noteworthy. The patient, who was up and about the ward seeing the electric current applied to another patient, asked to be allowed to try it. On the current passing she fell back dead, having been laughing and talking only an instant before she died.

I know of other cases of sudden death besides these I have mentioned. One of my patients has told me of the sudden death of her sister, who also had Graves' disease. Windle[16] and Knight[17] have each recorded a case. The

[1] Principles and Practice of Medicine, vol. i.
[2] Gazette des Hôpitaux, 1885. [3] Theory and Practice of Medicine.
[4] Diseases of Nervous System, vol. ii. [5] Gazette des Hôpitaux, 1883.
[6] Ziemssen's Cyclopædia. [7] Brit. Med. Jour., vol. i. 1883.
[8] Zeitschrift für Psychiatrik, 1871.
[9] Brit. Med. Jour., vol. i. 1889. [10] According to Gowers, op. cit.
[11] Bristol Med.-Chir. Jour., 1887. [12] Brit. Med. Jour., vol. i. 1863.
[13] Transactions, 1886. [14] Brit. Med. Jour., vol. ii. 1886.
[15] Med. Times and Gaz., vol. ii. 1876.
[16] Brit. Med. Jour., vol. i. 1882. [17] Boston Med. and Surg. Rep., 1868

average duration of Hale White's fatal cases was three years and three-quarters. In two fatal cases given by Drummond,[18] the duration of the disease was five years. There is considerable variation, then, in duration among the fatal cases. Of cases which have come to my knowledge about half of the deaths have been due to the disease itself and the other half have been the result of the disease together with intercurrent affections. Death has occurred either early within the first year or at a later period, after the disease has existed from three to eight years. It is unwise to draw conclusions from these observations as to the proportion which die, but it is evidently considerable. Cases admitted to hospital are selected cases, and are on that account likely to have a worse prognosis than ordinary. It is difficult, however, taking everything into consideration, to agree with Bristowe when he says the disease is not usually dangerous to life. The elements of danger of the disease, apart from intercurrent diseases, appear to be a condition of marasmus characterised by emaciation, loss of strength, disinclination for food, vomiting, &c., the occurrence of attacks of dyspnœa, a tendency to syncope, and the supervention of mania. Death, however, as I have instanced, may take place without warning. Cases have been observed where there have been several definite attacks. Gowers mentions a patient who had three attacks, at intervals of several years; Trousseau, a lady who, for the sixth time during six years, presented all the symptoms of the disease, and was much benefited by hydropathic treatment. I have not, however, myself observed such a case.

Pathology.—No disease has had so many theories propounded or so many suggestions made to explain its various curious symptoms. The mordid anatomy may be very shortly summed up: General emaciation, an excess of fat in the orbits, or rather an amount in excess compared with the rest of the body, a thyroid gland which shows general hypertrophy, sometimes a persistent thymus, sometimes an enlarged spleen, sometimes an increased amount of connective tissue in the neck, sometimes enlarged cervical and bronchial glands, sometimes enlargement of the lymphatic structures of the intestine. No naked-eye changes in nervous system. Alterations in the sympathetic have been described by some pathologists, but such changes have been shown to be in no way peculiar to Graves' disease. Most careful and thorough examination of the pons, medulla, &c., in Dr. Bristowe's case[19] by Hadden failed to reveal any microscopical change. Hale White[20] found minute hæmorrhages in the neighbourhood of the nuclei of the sixth nerve in a recent case.

It is curious that, among the many speculations as to the cause of the disease, that few should have attributed the disease to the enlargement of the thyroid gland itself. Koeben[21] imagined that the goitre caused the symptoms by pressure on the sympathetic, a hypothesis it is unnecessary to discuss, as we know the symptoms exist without goitre. O'Neill[22] cautiously remarks, "the thyroid gland has something to do with the production or continuance of the affection." Möbius[23] thinks the disease is akin to myxœdema, and caused by some chemical disturbance due to alterations in the thyroid, the one disease being due to increase of function, the other to loss.

Now, as there are undoubtedly cases which present all the symptoms of Graves' disease without any apparent change in the thyroid, and as apparently perfectly similar goitres exist without Graves' disease, it will be well to mention very briefly the other views which have been put forward. There is the affection of the sympathetic, with which Trousseau and others associated the disease, of which theory Long Fox[24] is perhaps the latest advocate. Now not only are the symptoms not those of affection of the cervical sympathetic, but, as I have mentioned, no change has been found in the ganglia or nerves by very careful microscopists. Begbie[25] attributed the disease to an altered state of the blood acting directly on the bloodvessels, and on the nerves of the heart. Begbie, as has been mentioned, laid more stress on the condition of the blood than is perhaps warranted by experience. The recent tendency has been to lay the burden of the disease on the central nervous system. Burney Yeo[26] says it is a neurosis of the emotional nervous system. Hughlings Jackson looks to the ganglia about the fourth ventricle as the seat of the lesion. Hale White[27] and Michell Clarke[28] write in support of the same views. For very excellent accounts of the central nervous theory I refer you to recent papers by Fitzgerald[29] and Ballet.[30] I think too much has been made of some experiments by Filehne[31] on animals. In one case he claimed to have produced exophthalmos enlargement of the thyroid and increased cardiac action by dividing the anterior fourth of the restiform bodies. It is unscientific to draw any conclusions from an isolated and uncorroborated experiment of this kind.

The minute hæmorrhages found by Hale White, already referred to, cannot be said to throw any additional light on the disease. As he himself admits, they are frequently found in patients dying of fever, and had this not been a case of Graves' disease would have had no importance attached to them. As I have already mentioned in the last lecture, hæmorrhages are not of rare occurrence in this disease, and Trousseau mentions cases of meningeal and cerebral hæmorrhages. The symptoms of the disease indicate a more widely spread affection than any mere limited lesion of the bulbar nuclei, and it is both useful and instructive to inquire how this group of symptoms have become associated together so as to form a disease. Fright, intense grief, and other profound emotional disturbance have been recognised as causes of the pathological condition, but I do not think that sufficient attention has been paid to the very close connexion between the chronic symptoms of Graves' disease and the more immediate effects of terror. The descriptions given by Darwin[32] and Sir Charles Bell[33] of the condition of man in intense fear might almost have been written in regard to one of the patients we have been considering. The heart beats quickly and violently, so that it palpitates or knocks against the ribs. There is trembling of all the muscles of the body. The eyes start forward, and the uncovered and protruding eyeballs are fixed on the object of terror. The surface breaks out into a cold clammy sweat. The intestines are affected. The skin is flushed over the face and neck down to the clavicles. The hair stands erect. "Of all emotions fear notoriously is the most apt to induce trembling." The symptoms of terror are common to man and the lower animals.

The explanation of the evolution of the various symptoms is a deeply suggestive one. "Men during numberless generations have endeavoured to escape from their enemies or danger by headlong flight or by violently struggling with them, and such great exertions will have caused the heart to beat rapidly, the breathing to be hurried, the chest to heave, and the nostrils to be dilated. As these exertions have often been prolonged to the last extremity, the final result will have been utter prostration, pallor, perspiration, trembling of all the muscles, or their complete relaxation. And now, whenever the emotion of fear is strongly felt, though it may not lead to any exertion, the same results tend to reappear through the force of inheritance and association." There are one or two of the minor symptoms of Graves' disease whose independent occurrence under the influence of emotions is well known. These are pigmentary changes in the skin and hair, falling out of the hair, and epistaxis.

"With respect to the involuntary bristling of the hair, we have good reason to believe," Darwin says, "that in the case of animals this action, however it may have originated, serves, together with certain voluntary movements, to make them appear terrible to their enemies." To the starting forward of the eyes and the retraction of the upper lids, and the pigmentary changes, the same remark applies. Such being the condition resulting from severe terror, we have only to imagine the condition to become prolonged by a failure of the nervous system to recover its balance and to right itself, and we have a more or less complete clinical picture of Graves' disease. We have all the well-known symptoms—trembling, palpitation, flushing, sweating, exophthalmos, relaxation of the bowels. There is no information that I know of in regard to the enlargement of the thyroid gland under the influence of profound emotional disturbance. All one can say on that point is that the enlargement which takes place in those cases where the symptoms develop rapidly after such disturbance makes

[18] Brit. Med. Jour., vol. i. 1887. [19] Diseases of Nervous System.
[20] Brit. Med. Jour., vol. i. 1889. [21] Diss. Inaug., Berlin, 1865.
[22] THE LANCET, vol. i. 1878. [23] Centralbl. für Nervenheilk., 1887.
[24] Bradshaw Lecture, 1882.
[25] Contribution to Practical Medicine, 1862.
[26] Brit. Med. Jour., vol. i. 1877.
[27] Op. cit. [28] Op. cit.
[29] Dub. Med. Jour., vol. lxxv. [30] Rev. de Méd., 1888.
[31] Phys. Med. Soc., Erlangen, 1879.
[32] Expression of Emotions. [33] Anatomy of Expression.

it probable that this is actually the case. If this be so, we have had associated with one another, probably as long as the human race and its ancestors have existed, the symptoms which we find in Graves' disease. The existence of a certain abnormal condition of the nervous system having been once established, we know how in time it becomes dissociated from its exciting cause, rises to independence as a disease in its own right, and may require only a minimal incitement to set it off.[34] In many cases the disease is started anew by severe mental shock; probably in a good many more it is the expression of the unconscious memory of the individual of some such shock in an ancestor.

Such, gentlemen, is what I would suggest to you as the origin and development of this very curious disease. It is likely that the alteration of the function of the thyroid body whose importance in connexion with nutrition and the transmission of nerve force has been amply demonstrated has a good deal to do with many of the secondary symptoms to which I have called attention, but the real disease is a widely distributed derangement of the emotional nervous system.

Treatment.—Charcot[35] in a recent lecture says the malady is one of those which finds us prepared for battle. We are, indeed, able to attack it with many weapons, but only with a measure of success, as the protracted cases and the fatal cases show. A great many drugs have been recommended, of which the principal are digitalis, belladonna, iron, arsenic, and the bromides. As regards digitalis, I have found some patients very intolerant of it, while others seem really benefited by it. Most patients appear to benefit from belladonna, of which I generally give ten minims of the tincture three times a day. Iron alone there is good reason to believe is not beneficial, while arsenic is found useful. Some cases, especially the more restless, are soothed and quieted by bromides. Iodine internally in any form has aggravated many cases of the malady, although rare cases have benefited from it. The first patient I showed you at the last lecture improved greatly under belladonna and iron. The two cases of recovery I shall show you were treated with belladonna, but one of them also had galvanism. The other case of recovery I know of had only a fortnight's treatment, and that was galvanism. Galvanism has been used in the treatment of the disease for fully twenty years, and it was applied to the neck with the idea of galvanising the sympathetic. Faradisation has been found to give much better results by Vigouroux.[36] He recommends the positive pole, a large electrode 2½ in. to 3 in. in diameter, to be kept applied to the nape of the neck during the whole application. The negative pole, a small electrode about ½ in. in diameter, is then applied to the carotid at the angle of the jaw first on one side, then on the other, for about a minute and a half. Next the eyelids receive attention. The small electrode is then replaced by a plate 1½ in. in diameter, which is applied immediately above the sternum to faradise the goitre. Finally, the current is reversed and the latter electrode is placed over the third left intercostal space, to faradise the heart. The whole lasts ten or twelve minutes. It must be done at least every other day. The results of this treatment are said to be extremely good. I have only had one opportunity of trying it, and I cannot say that any improvement resulted. The few cases I have seen treated with galvanism to the neck have, I think, benefited. Hydropathic treatment has, since Trousseau's time, been held in much esteem in France, but I have no personal knowledge of its results. Besides these more or less elaborate therapeutic measures, there are simpler remedies, which all are agreed are of great power, and these are change of air, change of scene, and change of habits. The seaside or mountain air has brought about more rapid recoveries than any other means. At least one recovery is attributed to a sea voyage. Tea, coffee, tobacco, and alcohol, except in great moderation, it is needless to say, are contraindicated. It must be remembered, however, that many cases are most intractable. The benefit which results from leeching or bleeding during attacks of dyspnœa should be borne in mind, as in Trousseau's case, which I have already mentioned. In cases where the goitre threatens life by suffocation the question of operation arises. Lister[37] removed the bulk of the tumour in such a case in 1877. There was alleviation of all the symptoms within a few weeks, and the patient, who was still alive in 1887, then presented few signs of her former malady. Tillaux claims to have operated with great success in two cases, but there seems to be a doubt as to whether they were really cases of Graves' disease. In a case in St. Thomas's Hospital, in which Sydney Jones removed the isthmus, there was only transitory relief, and the patient died within a month or two of the operation from cardiac disease. The operation is confessedly a dangerous one, and could only be recommended when life was already deemed sufficiently in danger.

The first three cases I have to bring forward are cases of recovery, to which I have already briefly alluded in the early part of the lecture.

CASE 16. *Graves' disease in a male; recovery after two years; ten years later in perfect health.*—The patient is a man aged thirty-nine, who was in St. Thomas's Hospital ten years and a half ago with well-marked symptoms of two years' duration; marked exophthalmos, large goitre, palpitation, trembling, and darkening of skin. He was treated with frequent and increasing doses of belladonna, so that at one time he was taking nearly half an ounce of the tincture in the day. He had also galvanism to the neck. The rapid cardiac action, 120 to 150 beats a minute, was the only serious symptom he presented, and while the exophthalmos and the goitre somewhat diminished under treatment this remained unaltered. At the end of two months he left the hospital, and within a fortnight resumed work, and although his occupation is very laborious he has never missed a day's work since, and has had no symptoms of any kind. At the present time there is still prominence of the eyes, but no von Graefe's sign. There is also some slight fulness in the thyroid region, and he finds it more comfortable to keep his shirt unbuttoned. There is no other sign of his old malady.

CASE 17. *Graves' disease; symptoms ten years' duration; gradual recovery.*—The patient is an unmarried woman aged forty-two who, twelve years ago, was taken ill with symptoms of Graves' disease, and ten years ago was under treatment at St. Thomas's Hospital, suffering from palpitation, trembling, extreme nervousness, extreme proptosis, and enlarged thyroid. She returned to work after some six weeks. The only treatment she had was fifteen minims of the tincture of belladonna three times a day. Her symptoms gradually subsided, although she has had no treatment, and has worked hard as a servant. For the last two years she has been quite free from symptoms of any kind. She has still extreme exophthalmos, and there is œdema of the eyelids; also some fulness in the thyroid region.

CASE 18. *Graves' disease; recovery after two years.*—This patient is a woman aged thirty-nine, who three years ago was under the care of Dr. Bristowe at St. Thomas's Hospital, with palpitation, trembling, extreme restlessness, emaciation, goitre, exophthalmos, slight albuminuria, œdema of eyelids and legs, and amenorrhœa, from which symptoms she had suffered for two years. She remained but a fortnight in hospital. The only treatment she had was the constant current to the back of the neck and thyroid. Still, when she left she had improved very much. Having heard from her that she had quite recovered, I asked my friend, Dr. Scott Tebb of Bournemouth, where she lives, to send me an account of her present condition. He informs me that she seems perfectly well, and weighs between eight and nine stone. The only trace of her former illness is a slightly enlarged thyroid. She dates the beginning of her recovery from the reappearance of the catamenia.

The next two cases are examples of one of the dangers of the disease to which I have referred—sudden death.

CASE 19. *Graves' disease; sudden death during apparent convalescence two years from onset of symptoms.*—This patient, a girl aged twenty-two, was in St. Thomas's Hospital in May, 1878, having for about a year suffered from palpitation, trembling, vomiting, sudden flushings, emaciation, proptosis, and goitre. She left the hospital after seven weeks, benefited. The trembling was subsequently the only trouble apparent to the friends, the proptosis and goitre remaining unaltered. She went to Eastbourne in September, and there gained flesh and strength. In March, 1879, the catamenia, which had been absent, came on. When due again she lost her voice and appetite. On April 8th she felt very languid, and her feet were much swollen. On the 12th she became

[34] See Creighton's Unconscious Memory in Disease, and Rindfleisch's Elements of Pathology.
[35] Gazette des Hôpitaux, 1885. [36] Le Progrès Médical, 1887.
[37] Transactions of the Edinburgh Med.-Chir. Soc., 1886-87, and Myxœdema Report.

very faint, flushed suddenly, and died. This patient's brother, I may add, died from tumour of the brain in 1888, and her sister died from hydrocephalus.

CASE 20. *Graves' disease; subsidence of symptoms; sudden death after parturition seven years from onset of malady.*—This patient, at the age of twenty, was in St. Thomas's Hospital in 1877, having had symptoms for two years, extreme trembling, palpitation, perspirations, vomiting, much proptosis and slight enlargement of thyroid. She remained in the hospital two months and went out benefited. The prominence of the eyes did not disappear altogether, but in the course of a year or two they almost resumed their normal condition, rather full or prominent. The trembling also subsided after about three years, and she made no complaint of palpitation. She remained, however, spiritless and devoid of ordinary hopes and aspirations. After giving birth to a child in May, 1883, she died suddenly when apparently in as good health as she ever was.

So much for cases of recovery and death. The chronic cases, which I shall now show you, illustrate not only the long duration of the disease, but many of the points which I emphasised in the last lecture, such as absence of exophthalmos or enlargement of thyroid, heredity, tremor, cramps, pigmentation, connexion with fright, &c.

CASE 21. *Graves' disease; absence of exophthalmos; other symptoms well marked.*—The patient is a young woman aged twenty-one, who has been under observation for fifteen months. During all this time she has had very rapid pulse and palpitation, tremors, attacks of trembling, great objective and subjective heat, sudden flushings, sweating, loss of flesh, coming out of the hair, irregular menstruation, together with moderate enlargement of thyroid and without exophthalmos or von Graefe's sign. She has attended intermittently, as she lives at a considerable distance. I have given her belladonna, but I cannot say that her condition now is materially altered from that of her first attendance.

The next two patients I have to show you are sisters, in the younger of whom the symptoms have been present for six years, in the elder for eleven years. In the latter the disease is subsiding.

CASE 22. *Graves' disease, duration six years*.—This patient, Eliza W——, aged thirty-one, is unmarried, and a servant. She has slight exophthalmos, slight œdema of the eyelids, well marked von Graefe's sign, but no retraction of upper lid. There is only slight thyroid enlargement. She has very troublesome palpitation and trembling attacks, and the characteristic tremor is well marked, together with a number of other symptoms. In 1883 she was very much frightened by being left alone at night in an empty house, next door to one which had been visited by death, where she could hear the coffin brought in and other preparations being made. Shortly after this she began to suffer from palpitation, while the eyes became prominent and the neck swollen. She first came to the Brompton Hospital in 1885, and there was then marked exophthalmos, with von Graefe's sign, and a goitre of fair size. Trembling was first noticed in 1886. She has attended off and on during the last four years, taking as medicine iron, quinine, and digitalis, and lately belladonna. Since she has been attending the exophthalmos and the goitre have diminished, but her troubles now are apparently as serious as when she first came. She now, as she has done throughout the last three years, suffers from trembling, which is always worse with worry or excitement, painful cramps, especially in the calves of the legs, nocturnal sweating in the face and hands, burning heats, and flushings in the head and neck. She has frequently felt the "giving way of the legs." She thinks the colour of her face has on the whole become darker, and it is now certainly dark, although there are no patches of pigment. Her hair is thin, and has come out very much. She is unnaturally irritable, and suffers from globus. She has lost flesh, and the catamenia are scanty.

CASE 23. *Graves' disease; duration eleven years*.—Mrs. S——, aged thirty-four, sister of the subject of the previous case, first began to suffer from the symptoms eleven years ago. When twenty-three she had a very severe confinement, being five days in labour. Soon after she began to suffer from trembling and fainting fits. She next noticed the swelling of the thyroid. The eyes gradually got larger and more prominent. Palpitation did not trouble her until two years later. She had acute rheumatism at the age of nine. She first attended this hospital in November, 1885. At that time exophthalmos was very marked, and von Graefe's sign was present, the thyroid was considerably enlarged, the pulse was rapid (140), and the hands trembled much, as her autograph then written bears witness to. Points of interest are, that at one time she suffered much from very bad cramps, attended with drawing up of the limbs, that she has had frequent and excessive epistaxis, and that at one time she lost flesh very much. Her whole condition has during the last eighteen months been much ameliorated. The heats and flushings have subsided, diarrhœa (formerly troublesome) has ceased, and the trembling and palpitation are much less frequent. The tremors can still be seen in her hands, there is slight prominence of the eyes and slight von Graefe's sign, and the goitre remains very large.

CASE 24.—*Graves' disease; duration eleven years.*—I may here mention another case in which the duration has been eleven years. The patient, Mrs. I——, aged thirty-six, was in St. Thomas's Hospital nine years ago with well-marked symptoms, goitre, cardiac action 110, but no exophthalmos. She wrote me a few weeks ago saying the goitre had not diminished in size, and that the palpitation was as bad as ever. The trembling has, however, ceased for some time. Her eyes have not become prominent.

CASE 25. *Graves' disease; duration eleven years; large goitre, but no exophthalmos; sister also affected.*—The patient, Mrs. R——, is thirty-one years old. She has had palpitation and trembling since the age of twenty. She has considerable thyroid enlargement, which she first noticed when she was twenty-seven. Her only other illnesses have been frequent quinsies. In July, 1886, she first attended this hospital on account of palpitation and pain in the throat and back. She had then considerable enlargement of the thyroid and violent intermittent cardiac action. After attending under Dr. Bruce for six months, being treated with iron and digitalis, she left much benefited, the goitre having almost entirely disappeared, and for nearly two years she felt quite a different woman. In the spring of last year she returned, suffering as before from palpitation, and also from attacks of trembling coming on two or three times a day. There were then, as there are now, very marked tremors of the hands when held out, and a considerable goitre. I noticed slight prominence of the left eye, but as a rule exophthalmos has been completely absent. Now the palpitation is very troublesome, and the trembling fits are very distressing, occurring from the slightest causes. She gets bad cramps in the legs, especially at night. Her legs give way at times. She is much troubled with heats and flushings. Her hair is thin, and has come out very much. She brought her sister to see me lately, saying she suffered in the same way, with trembling and palpitation. I found an enlarged, soft thyroid and cardiac action 136 to the minute.

CASE 26. *Graves' disease over thirteen years; excessive trembling, exophthalmos, pigmentation of skin; formerly considerable goitre, but no enlargement of thyroid now.*—Mrs. D——, aged forty-nine, is under my care at the Royal Free Hospital. She is extremely tremulous. The trembling interferes with writing and needlework, but she can carry a cup to her mouth fairly steadily. She has attacks in which she trembles all over. She has moderate exophthalmos and both von Graefe's and Stellwag's signs are present. There is no apparent thyroid enlargement. The pulse varies between 124 and 144, and there is a mitral systolic murmur. She has attacks of palpitation several times a day without apparent cause. Her face has a greasy, yellowish look and a scar on her forehead is stained a deeper yellow. On examining the skin of the body one finds a brown, pigmented rash, specially affecting the axillæ and sides of the chest. The outer and back parts of the thighs are similarly affected. Her hair is thin, and on account of falling out so much has been cut quite short. She suffers from sweats and flushings, cramps in the feet, hands, and knees, and troublesome diarrhœa from time to time. She has had a cough every winter for five years, and there are slight signs of phthisis at the right apex. At the age of twenty she received a severe mental shock, and was unable to move for twenty-four hours. She was in bed for six months, was catheterised for difficulty of micturition, and treated with pessaries for supposed uterine trouble. She has suffered frequently from migraine. It was not till she was thirty-six that palpitation began to trouble her, and then only on exertion. When thirty-nine it was observed that her eyes

were prominent, and she discovered a goitre, which rapidly enlarged. The goitre remained large four years and then disappeared.

CASE 27. *Incomplete Graves' disease; trembling, palpitation, pigmentation of skin, falling out of hair, attacks of spasm of hands and feet, emaciation, menorrhagia; sister to subject of preceding case.*—Mrs. J. L——, aged forty-three, is also attending under me at the Royal Free Hospital. She suffers from palpitation and trembling. The attacks of palpitation have been troublesome during the last three years, but only when excited or worried. Trembling, which she has noticed all her life to a certain extent, has been much more marked during the last three years. Both hands tremble when held out, especially the left, and she feels a trembling throughout the body. There is no exophthalmos, and no perceptible enlargment of the thyroid. The cardiac action has varied between 88 and 108 when counted. No abnormal physical signs in heart or lungs. She always feels better in cold weather than in hot, but experiences no disagreeable feeling of heat. She has flushings to the head. There is a brown pigmented discolouration of the skin on the abdomen and the back below the spines of the scapulæ, also on the upper parts of the arm and the bends of the elbows. Her hair is thin and has fallen out very much. She is thin and has lost flesh considerably. The urine contains neither sugar nor albumen. The catamenia are excessive. She has had quinsy twice, and formerly had enlarged tonsils. For the last four years she has suffered about every week from definite attacks of migraine. At the age of nineteen she began to have fits of a peculiar kind, and these became worse and more frequent after twenty-six. In these attacks the hands and feet become rigid, and the thumbs turn inwards. She never quite loses consciousness. She is irritable and low-spirited. The family history of these two patients is interesting. Their father trembled nearly all his life; he was deaf, and this was said to be due to enlarged tonsils. One brother suffered from fits, and another is said to be extremely nervous.

CASE 28. *Graves' disease; duration twenty years; now cramps, slight goitre, and exophthalmos, but rarely palpitation and trembling.*—The last patient I have to show is Mrs. F——, aged forty-two, who has a history of Graves' disease extending over twenty years. She has had no other illness except ague, when a girl in Cambridgeshire. When twenty-two she noticed that her eyes were becoming prominent, and a goitre, of whose existence she was unaware, was discovered by her doctor. When twenty-five the goitre began to cause her inconvenience, and she also commenced to tremble very much. Sometimes she was so agitated she could not sign her name, and her writing was generally so shaky that she was quite ashamed of it. Another trouble then was great heat. It was not until she was thirty-two that palpitation troubled her, and she then first attended this hospital. In 1882 Dr. Bruce, under whose care she was, noted exophthalmos to a degree, together with considerable goitre and a mitral murmur. She was thin and unhealthy looking, and suffered from sweats, headache, and dysmenorrhœa. She did not attend very regularly, but generally experienced benefit from the medicine she took, consisting of iron, quinine, and digitalis. Her hair, which is very scanty, turned grey at thirty, and then began to come out very much. She has frequently suffered from diarrhœa and vomiting. She often had the giving way of the legs, and was unable to stand any length of time without falling. Trembling and palpitation continued bad until two years ago. Now she has no tremors, and only rarely trembling or palpitation. In March, 1888, she had tonic spasms of the hands, lasting some days, and she has had several attacks since. She occasionally has painful cramps in the legs. At the present time there is much visible pulsation of the vessels of the neck. The thyroid is only slightly enlarged, and there is slight exophthalmos, but no von Graefe's sign.

DISTRICT COTTAGE HOSPITAL, WATFORD.—The annual report, just issued, shows a considerable addition to the number of patients treated during the past year, and the growing usefulness of the institution. Since the opening in August, 1886, to the end of June, 1890, 229 patients were admitted, of whom 83 were treated in the year under review, against 59 in 1888. Of the 83 patients, 4 died, 67 were discharged cured or relieved, and 11 remained under treatment. The income, from all sources, amounted to £534 8*s.* 8*d.*, and the disbursements to £549 8*s.*

ON THE ANALGESIC VALUE OF ANTIPYRIN INTRA- AND POST-PARTUM.

BY JOHN PHILLIPS, B.A., M.D.CANTAB., M.R.C.P.,
ASSISTANT OBSTETRIC PHYSICIAN, KING'S COLLEGE HOSPITAL; PHYSICIAN TO THE BRITISH LYING-IN HOSPITAL.

FIRST used as an antipyretic in large doses, antipyrin has been found during the past five years to be an almost universal panacea in smaller doses for "nerve pain," and is now prescribed empirically in all cases of neuralgia of whatever part of the body. Its value in certain cases of dysmenorrhœa of the so-called "spasmodic" type first directed attention to the generative organs as a field for its use, and the medical journals up to the present time have scattered through them results arising from the use of antipyrin (certainly of a most variable character) in connexion with the pregnant condition and labour. It was with the object of verifying these results or not that the following investigations were undertaken. Windelschmid[1] published, among the earlier observers, an interesting case of relief from dysmenorrhœa which had lasted eight days, the patient being very violent. Relief was obtained by rectal injection of three doses of two grammes (about thirty-one grains) of the drug; the two first with an interval of twelve hours, the third twenty-four hours later. Convulsive action, which was present before its administration, also ceased. Dellenbaugh[2] and Chouppe[3] also relate similar instances; the latter, in addition, found great benefit from a rectal injection given to a patient with a painful uterine myoma which had resisted all other remedies.

The mode in which this drug relieves uterine pain is doubtful; it is well known and, I think, generally acknowledged that the most essential properties of the uterine muscular fibres are: (1) Extensibility; (2) retractility; (3) contractility. The last is quite distinct from retractility, and always occurs when a strange body is to be expelled from the uterus. Uterine pains are produced by two different mechanisms: (*a*) When there is an absence of retractility and, as a consequence, the formation of clots; and when (*b*), in spite of sufficient retractility, pains persist in consequence of intemperate use of ergot, or retention of placental débris. Rivière[4] thinks that antipyrin relieves the pain included in this latter class, but without touching or influencing the contraction. My own opinion, based on the following observations, is that the pain which the drug relieves is entirely a "nerve pain," or neuralgia uteri, and that its action on muscular uterine fibre is negative. I may quote Chiara[5] in support of this assertion, who, as the result of its use in twelve cases of pregnancy, found that "in therapeutic doses, it does not show appreciable effect enough to make one believe in it as having an oxytoxical or exciting action on the uterine fibre during pregnancy and the physiological state."

The questions which seem to be at issue regarding the use of this drug are the following: 1. Does its administration during or immediately after labour tend to relieve pain, and, if so, at what stage are its effects most marked? 2. Has it any effect on the uterine pains in augmenting their number or intensity, or the reverse? 3. Is cervical dilatation more rapid under its influence? 4. Does its administration promote or tend to post-partum hæmorrhage? 5. What is its effect upon the process of lactation? The property it possesses of diminishing high temperatures, as in puerperal fever, is of the highest value, but it appears to me outside the questions at issue. I think a word of warning should be given, however, as to its indiscriminate use in large doses in attempting to reduce pyrexia, as I have met with records of several deaths from collapse in the course of my research. Under the first heading the question naturally resolves itself into the relative value of the drug during the two stages intra- and post-partum.

To elicit an answer to the above, I carefully administered the drug to forty-two cases, and selected as many primiparæ as possible in consequence of the usually more lengthened

[1] Allgemeine Med. Central. Zeitung, 1888, No. 53.
[2] New York Med. Record, vol. i., 1887, p. 579.
[3] New Orleans Medical and Surgical Journal, April, 1888.
[4] Gazette Hebdomadaire des Sciences Médicales de Bordeaux. 1888. No. 32.
[5] L'Antipirina in Ostetricia: Annali di Ostet. Ginecol. e Ped. 1885, p. 5.

stage intra-partum; thirty-one were of this type. The others, eleven in number, were chosen at random. The drug was not given until labour had commenced, and until the dilating pains had set in regularly; the number occurring in an hour was noted, and then compared with those which passed in the same time shortly after the administration of the drug. The temperature and pulse were taken at regular intervals, and notes made at the time as to the severity of the pains and the patient's statements as to the relief or not given by the medicine.

I append a typical case:—The patient was aged twenty-nine years and a primipara. Induction of premature labour at about the thirty-sixth week for slight pelvic contraction. March 11th, 1889 (3 P.M.): Induction by passage of a catheter. 12th: At 4.5 A.M. pains began, and recurred at 4.20, 4.32, 4.45, 4.52, 5.10 (or about six in one hour). At 5.27 A.M. fifteen grains of antipyrin were administered. The pains occurred at 5.55, 6.0 (sick), 6.7, 6.20, 6.30, 6.42, 6.55 (or seven in one hour, about), 7.10, 7.23, 7.30 A.M. At 7.45 A.M. a second dose of antipyrin (fifteen grains) was given. At 8.5 A.M. the patient was sick; at 8.15 she slept for eight minutes; pains occurred at 8.40, 8.55, 9.15, 9.40, 9.53, 10.15, 10.30, 10.35, 10.57, 11.20, 11.47, 12.16 noon (fourteen pains in four hours, or less than four in the hour). Cervix fully dilated, waters ruptured artificially. Labour terminated at 6.40 P.M.; living female child. Between rupture of waters and termination of labour, six hours and a half (nearly).

The method of administration was by the mouth and in 15 gr. doses, made up with half a drachm of compound spirit of ammonia and cinnamon water, including two doses given during the expulsive stage. Sixty grains were given. Sickness occurred after each dose during the first stage, and after the second during the expulsive stage. It will be noticed that the medicine had a slight effect on the rapidity of the pains, if anything there being a tendency to slight retardation at first, becoming more marked after the second dose. There was no doubt as to the relief from the pain after the first dose, both from the patient's own statements and from her appearance to bystanders, more after the second, but absolutely none during the expulsive stage. There was no post-partum hæmorrhage, and successful lactation followed. Appended is a table showing the results of the administration of the drug in the forty-two cases. It will be seen that I have divided this into four columns, and under the heading "Result" have given the value of the drug as judged by results obtained—i.e., whether from the patient's evidence or from her change in behaviour.

		Total Cases.	Result.		
			Good.	Moderate.	Negative.
Stage of dilatation	(a) Primiparæ ..	31	15	6	10
	(b) Multiparæ ..	11	4	3	4
Stage of expulsion	(a) Primiparæ ..	12	0	4	8
	(b) Multiparæ ..	5	0	1	4
Post-partum ..	(a) Primiparæ ..	1	0	0	1
	(b) Multiparæ ..	8	5	0	3
As an agalactic ..	(a) Primiparæ ..	3	1	0	2
	(b) Multiparæ ..	4	0	2	2

Taking, first, the stage of dilatation, it will be seen that in 15 cases out of the 31 in which the drug was administered, or nearly 50 per cent., it was very beneficial—i.e., the patient either strongly asserted that she felt great relief, or it was self-evident by her falling asleep or becoming more quiescent. Among the multiparæ the cases relieved were not so great in proportion—viz., 36·3 per cent. On the other hand, the absolute failures among the primiparæ amounted to 32·2 per cent., while among multiparæ it was 36·3 per cent. Queirel,[6] who admits the value of the drug chiefly in this stage, found its success undoubted in 15 women out of 20, or 75 per cent. Of these 15 patients, 11 were multiparæ, the other 4 being primiparæ. Of the 5 refractory patients, only 1 was a multipara, thus concluding rather that the action of antipyrin is more marked on that class. Winkle[7] now never administers it except during this first stage, and he has found the relief following its administration almost general. By comparing statistics when the drug *was* taken and when *not*, he gathered that it does not increase the duration of the first stage; but, on the contrary, tends to shorten it on an average about half an hour; while in the second stage it remains practically the same. Grandin[8] corroborates these views. In the expulsive stage the results were practically negative, as absolute relief was never observed either in primiparous or multiparous patients. I believe that this statement is corroborated by all the writers on this subject, with one or two exceptions—viz., Fauchon[9] and Lielski,[10] the latter of whom found the results in his four cases "invariably excellent." Its administration post-partum for after-pains was chiefly among multiparæ, indeed I only once had a case of a primipara in which it could be called necessary, and there it was quite without effect. In the 8 multiparæ to whom it was given it was certainly very beneficial in 5, or 62·5 per cent; and I found that the failures were those in which the after-pains were chiefly due to collection and expulsion of blood clot, while the successful ones were those in which the pains were more of a grinding and neuralgic character, and not followed by passage of clot. Milne[11] and Chouppe[12] both found antipyrin of great value in these cases.

From the nervous influence which is doubtless at work in connexion with the process of lactation, it would be almost concluded without experiment that antipyrin would have some marked effect on the amount of milk secreted. Salemi[13] mentions the case of a primipara of robust constitution. Weaning was necessary from the breasts being neglected and having become covered with sores. Ten days were occupied in attempting to effect this, including the use of iodide of potash and compression, but they all failed. He then gave 50 cgr. of antipyrin divided into three doses; the secretion diminished the first day, ceased the third, and did not return. My own experience is not so favourable; the drug failed entirely in two cases out of three in which it was given, but certainly succeeded in one. The patient was a nervous primipara confined prematurely, with much distended breasts and large quantities of milk. Her child died on the fifth day of immaturity. I used compression and 15 gr. doses thrice daily and ordered the usual diet; the effect was very rapid, and she felt relief after twenty-four hours, and the secretion ceased practically on the fourth day. The two multiparæ were absolute failures. Antipyrin is not eliminated by the milk secretion, and hence its use is not contraindicated in these cases. The effects of the administration of antipyrin on the cardio-vascular functions and the nervous system are well worthy of note. Knorr and Filehne[14] first pointed out the usual pulse retardation in 1884, while Winkle observed that generally the temperature fell from half to one and a half degrees F. After a dose of 15 gr. he found the pulse become somewhat more frequent and respiration quickened; but if the pulse at the time of giving it was rapid, it decreased it. My own experience is that in the greater number of cases, in addition to a slight reduction of temperature, half an hour after administration the pulse was diminished in frequency, the patient having at the same time, however, a sensation of palpitation, respiration did not appear to be appreciably affected. Dark and thin patients of neurotic type certainly seem to be more susceptible to its influence, and this is corroborated by Adams,[15] who, in an elaborate paper on the therapeutics of the drug, warns us to administer it in small doses "to phthisical and thin people." Antipyrin may be administered by mouth, rectum, or by subcutaneous injection. The last is rendered much less painful by the addition of cocaine. By mouth it should always be taken with some diffusible stimulant like ammonia. Fatal cases as the consequence of its administration have been several times reported, but never during labour, and I know of no reason why it should not be given without apprehension provided the dose is below 25 gr.

Conclusions.—1. That antipyrin in doses of fifteen grains, repeated at proper intervals, is a remedy of great value in the dilating stage of labour, and more especially in primi-

[6] La Semaine Médicale, 1888, p. 93: De l'Antipyrine dans les Accouchements.

[7] New York Medical Journal, 1889, vol. xlix., p. 14: Antipyrin during the First Stage of Labour.

[8] Ibid., 1888, vol. xlviii., p. 38.

[9] Bulletin Général de Thérapeutique, 1888, tome cxv., p. 81.

[10] Wiadomoscie Lekarskie, 1888, No. 10, p. 289, quoted in New Orleans Med. and Surg. Journal, 1888, p. 233.

[11] New York Medical Record, 1888, vol. xxxiii., p. 38. [12] Loc. cit.

[13] Bulletin Général de Thérapeutique, 1888, cxiv., p. 554: L'Antipyrine contre le Secrétion du Lait.

[14] Berlin. Klin. Wochen., 1884, No. 20.

[15] Journ. Amer. Med. Assoc., 1885, vol. v., p. 621

paræ, but that its uncertainty of action renders it less reliable than chloral. 2. That during the expulsive stage of labour it is useless as an analgesic, in whatever way it may be administered. 3. That in certain kinds of after-pains it is very efficacious. 4. That it is without any ecbolic properties, and has little or no effect on the frequency of occurrence of labour pains during the dilating stage, and does not aid dilatation of the os uteri. 5. That the effect of the drug appears to be more marked on impressionable and neurotic women and those of dark complexion and spare frame than on others. 6. That it should never be given by mouth without the addition of a diffusible stimulant.

Grosvenor-street.

A CASE OF OSTEOMA OF THE FRONTAL SINUS.

BY STANLEY BOYD, F.R.C.S. ENG., &C.

SEVEN years ago, in 1883, a swelling appeared on the forehead of M. H——, aged twenty, and was attributed to a kick and blow on the part within a year before, but both of these injuries were too slight to be mentioned at the time. The swelling was painted with iodine for a month, followed by mercurial inunction, with mercury and iodide internally. Since that time it has slowly grown, all treatment being discontinued after a few months. In 1885 the swelling was wide based and diffuse. At the end of 1888 it was much more prominent and defined. For some years there had been a free watery discharge from the nose.

When I saw him there was a prominent swelling of bony hardness, chiefly to the right of the mid-line of the forehead, long diameter (about 1½ in) transverse, short diameter (about ½ in.) situate about half an inch above the root of the nose; base well defined, and as wide as any part of tumour; on the surface two points were separated by a depression. All round the base the frontal bone seemed too prominent, and there was a low rounded eminence running down over the right frontal sinus, suggesting the possibility of a growth in the frontal sinus. The mass was evidently an osteoma, and I hoped from the irregularity of its surface it might prove cancellous. It was sufficiently high on the forehead to make it *possible* that it had nothing to do with frontal sinuses of ordinary size. On July 11th an operation was performed. The hairy scalp was shaved for about an inch, and disinfected twelve hours previously. A semilunar incision was made, so that the top of the curve lay just below the hair, while the horns descended to the level of the mass, half an inch or so from the ends of its long diameter. Bleeding was very free and difficult to check, the total loss of blood being considerable. When stripped of periosteum the mass looked like a cancellous exostosis, and the protruding part was easily detached by a few blows with the mallet and chisel. The base was now seen to be surrounded by tags of mucous membrane. Evidently the growth had sprung from the posterior wall of the frontal sinus, and had pushed its way through the anterior wall of the space, in confirmation of which a collar was found round the neck of the protruding portion of bone, laid down evidently by the periosteum on the outer surface of the frontal bone. With mallet and gouge the base was removed piecemeal from the sinus, the mucosa acting as a guide to its limits. More than half as much again as the tumour was thus removed, and at one spot, near the middle line, the brain cavity was slightly opened, but the channel leading to the nose was not found. Next, in an endeavour to render the forehead quite symmetrical, the chisel was applied to the descending ridge and to the right, and mucous membrane, undoubtedly that of the right frontal sinus, was exposed, but the sinus was not opened. The flap was fixed in position and a compress dressing of mercuro-zincic cyanide gauze and wool applied. The operation lasted about one hour and three-quarters. Beyond a little headache after the operation the patient had no trouble of any kind. He was up for three hours on the third day, was dressed on the fifth day, when the wound was found completely healed, the scar being absolutely linear. The patient vomited some altered blood soon after the operation, and the discharge from the nostrils was blood-stained for several days. At first the patient thought the discharge diminished in amount, but on the twelfth day after the operation he reported that there was no diminution.

Such a case as the above is of sufficient rarity to merit publication. The tumour has been sent to the College of Surgeons, which possessed no such specimen. In considering the question of operation, the nature of the growth and its relation to the frontal sinus first claimed attention. The irregularity of the surface led me to hope that it would prove cancellous. I was, however, prepared with instruments to deal with an ivory growth. I was not told about the discharge from the nose until after the operation, or I should have concluded with some certainty that the growth sprang from the frontal sinus. Against this was the fact that the discharge came from *both* nostrils, whilst the growth did not occupy *both* sinuses. On the other hand, the blood after the operation tinged the discharge from *both* nostrils, and so far as I know the right frontal sinus was uninjured. I am inclined to think that the osteoma lay in a distended left frontal sinus, the septum between the sinuses being to the right of the mid-line, though I did not find the opening to the nose which evidently existed. I had hoped that this case would prove interesting as demonstrating one cause of persistent watery discharge from the nose, but the evidence connecting the osteoma and the discharge is far from conclusive. With asepsis I anticipated no danger to the patient from an operation, even though the frontal sinus were opened. For mechanical difficulty in removing the mass I was prepared. I had determined, in case of ivory osteoma, to endeavour to work with the chisel in soft tissue round the growth; failing this, to shave off the mass level with the frontal bone rather than enucleate it and leave a gap in the skull. This latter procedure has successfully checked the increase of such a tumour, possibly because the periosteum over it was destroyed in the operation. It occurred to me that the best treatment of cases of multiple osteomata of the facial bones might be the early removal by dissection of their periosteal covering.

Harley-street, W.

TWO CASES OF HÆMATO-PORPHYRIN IN THE URINE.

BY J. E. RANKING, M.A., M.D., M.R.C.P.,
PHYSICIAN TO THE TUNBRIDGE WELLS GENERAL HOSPITAL;
AND
G. L. PARDINGTON, M.D.

CASE 1.—Miss A. B——, aged forty-one. Throughout life nervous and hyperæsthetic; has suffered from several shocks. First seen in August, 1889, complaining of menorrhagia, general headache, and pain in epigastric and umbilical regions and insomnia. The tongue was deep-red, denuded, and sore-looking. There was habitual constipation. She was under treatment by rest and feeding. All went well, except neuroses and photophobia and occasional deposits of earthy phosphates in the urine, till the period in October. Though of good colour, the discharge was much less than usual, lasting three days, and leaving vertical headache and confusion, with pelvic distress, which yielded immediately to mustard over the ovarian regions. From this time she became intensely neurotic, complaining of nausea, mental confusion, and hypogastric pain, always distressed because "last period was too little." During the week ending Nov. 16th these symptoms increased, with retching and occasional vomiting of food and mucus. The urine became scanty and uratic, to which was attributed the supra-pubic pain and frequent desire to micturate. On Monday, the 18th, pelvic distress being well-marked and the abdomen being distended, twenty grains of acetanilide were given in three doses within four hours. This caused marked cyanosis and collapse, with scantier urine, which when next passed (about ten ounces) was clear and of a deep port-wine colour, acid, sp. gr. 1031, with strong odour (not exactly urinous), and giving no reaction with HNO_3 cold, boiling and HNO_3, picric acid, guaiacum, and Heller's tests, tincture of iodine, nor Fe_2Cl_6. No spectroscope was available. There were no blood cells nor casts. Under stimulating treatment (hot liquid food with gin) the collapse subsided by Tuesday evening, the 19th, the urine being unchanged. That night she slept well, and the catamenia, due on Thursday, appeared rather suddenly on Wednesday, of a good colour, without clots, and in moderate amount.

The discharge continued throughout Thursday, and by 10 A.M. on Friday had nearly ceased. During this time the urine was not specially observed. On Friday evening, the 22nd, all pelvic distress had ceased except supra-pubic uneasiness, and no urine had been passed since morning. As, however, there had been somewhat free perspiration and frequent retching, in consequence of which very little fluid had been retained, no special means were taken in view of the additional fact that the desire to urinate existed. The abdomen was moderately distended with flatus, the bladder was not notably enlarged, and the bowels had been unrelieved for three days. An aperient was given, and hot fomentations applied. She complained of nothing but inability to micturate, insufficiency of the period, and weakness. On Saturday morning no urine had been passed, the bowels were not open, the abdomen was more distended, retching continued, the surface was cool, and there was slight cyanosis. The bladder could not be defined through the abdominal wall. Hot liquid milk food (10 oz. every two hours and half an ounce of brandy) was given, and fomentations continued; and a stimulating mixture of ammonia and digitalis was ordered. In the evening all the food &c. had been retained, and there had been only occasional retching; no urine nor fæces had passed, the bladder could not be felt; abdominal distension and cyanosis had increased. Pulse 90 to 96, weak. On Sunday morning, the 24th, all symptoms had increased; neither urine nor fæces (in spite of enemata) had been passed. The bladder could be made out just above the pubes. A catheter was passed and 13 oz. of dark-red (almost black when viewed in bulk) urine was withdrawn. Dr. Pardington saw her with me. Pulse 104; temperature 99 2°. Nothing further was made out; there was no cardiac bruit or pulmonary œdema. Treatment continued with addition of stimulating enema, sinapisms to renal and cardiac regions, ether being added to the mixture. The urine rapidly deposited a thick layer of deep-red lithates with a chocolate-brown grumous sediment above, the supernatant fluid being deep-red and clear. It was acid, sp. gr. 1031; no reaction with HNO_3 hot or cold, picric acid, ferrocyanide test, Fehling or Heller. Microscopically urates, uric acid crystals; no blood discs. One similar specimen was removed on Sunday evening. No fresh symptoms occurred, except complaint that she could not move her legs on Monday morning, until death on Monday afternoon, the 25th. Within half an hour after death extensive post-mortem staining had occurred even upon the upper surface of the body and limbs. No necropsy allowed.

CASE 2.—Miss C. D——, aged forty-seven, suffering from dementia. The menopause had occurred, but molimina were regularly present. On Saturday, Nov. 23rd, having suffered for a few days from gastric catarrh, with constipation, retching, vomiting, and disinclination for food, such as she had suffered from on some previous occasions, she failed to pass urine after the morning. The urine had on one other occasion been retained for twenty-four hours. In spite of remedies, no urine was passed until Monday (25th) at 2 A.M. This urine (12 oz.) was exactly similar to that in Case 1, and gave identical reactions. No other symptoms were present, except prostration, vomiting after food, coated tongue, and constipation. Pulse 90; temperature normal. There was no cyanosis, sweating, or meteorism. There was, however, similar complaint of supra-pubic pain. In view of possible local influences, which, however, were carefully excluded, she was removed from the house.—Nov. 26th: At 2 A.M. urine was again passed, after twenty-four hours, 20 oz. During the day often sick, and complained of supra-pubic pain.—27th: Often sick and in pain. Urine of similar character passed with the stools.—28th: Same symptoms. Tenderness over whole back, apparently worse over kidneys. Complains greatly of bad taste in the mouth. Poultice applied to the loins. Urine. 12 oz. in twenty-four hours, of identical character. Dr. Pardington saw the patient with me. Ordered half a drachm of tincture of perchloride of iron every three hours.—29th: Sick. Urine, 10½ oz. in twenty-four hours. That passed at 7.30 P.M. (8 oz.) lighter in colour.—30th: Sickness somewhat less. Urine. 13½ oz.—Dec. 1st: Sick occasionally. Urine, 16½ oz. From this date the symptoms steadily abated, the urinary secretion becoming gradually re-established, and by Dec. 14th had resumed a natural character. Throughout the temperature varied between 98° and 99·4°.

Remarks.—In reference to the above cases we desire to draw attention to the following points. Both patients were thin women of a similar age, forty-one and forty-seven respectively, and single; both were highly neurotic; both had catamenial disturbance; both suffered from chronic gastric catarrh, hypogastric pain, vomiting, thirst, anorexia, and constipation (unless systematically remedied); both were in bed, in the same house (in different rooms) and on milk diet. They were not related, and had not suffered from any similar attack previously; neither was there any suspicion of poisoning (wall papers examined). As far as could be ascertained both were free from organic disease. The drainage of the house was unexceptionable. In both the attack commenced during an aggravation of dyspeptic symptoms, and came on with marked suppression of urine (only from ten to twelve ounces respectively being secreted within the first forty-eight hours), accompanied by profound prostration, which endured throughout. The urine in each case presented precisely similar characters with regard to colour, odour, and prolonged resistance to decomposition. When first passed it had every appearance of being loaded with blood. On standing it separated into three layers, the lowest consisting of highly coloured urates, the intermediate stratum being of a chocolate-brown grumous character, the supernatant fluid remaining clear, and of a deep port-wine colour. The odour was markedly peculiar, and strongly suggestive of freshly killed meat. Examination showed it to be highly acid. Sp. gr. 1031, with complete absence of albumen, sugar, bile, and blood, together with diminished excretion of urea. Under the microscope there appeared amorphous urates and crystals of uric acid, but we could not discover either blood discs or tube casts. Having regard to the extraordinary characteristics presented, we considered it expedient to submit specimens of the urines to recognised authorities on urinary pathology.

The following is extracted from a letter received from Dr. Russell, F.R.S., Lecturer on Chemistry at St. Bartholomew's Hospital, who examined urine from Case 1:—"The colouring matter is evidently a body called hæmatoporphyrin. It is supposed to be hæmatin with the iron removed. Its spectrum is identical with that given by your urine. No one that I have met with ever saw a urine of so strong a red and free from blood as the one you sent me is." Dr. Copeman of St. Thomas's Hospital, who, together with Dr. McMunn, examined samples of urine from both cases, writes as follows:—"The fluid, which was of a dark purple-red colour, gave a four- or five-banded spectrum with the chemical spectroscope, practically unchanged by NH_4HO or NH_4HS, while the addition of dilute H_2SO_4 changed it into the spectrum of acid hæmato-porphyrin. In the urine of the fatal case the addition of $ZnCl_2$ and NH_4HO caused a slight shifting of two of the bands, but the fluid showed no fluorescence, thus showing that no urobilin was present; while a slight green fluorescence was noted in the urine of the non-fatal case. The band at F., however, did not shift with these reagents, so that the pigment had not reached the stage of urohæmato-porphyrin. The bands do not exactly correspond with those of hæmatoporphyrin, so far as it is possible to judge from comparing spectra of alcoholic and aqueous solutions of the respective pigments. So that it is probably a form of hæmato-porphyrin which has been less metabolised than any of the reduction-products described by McMunn in the *Journal of Physiology*, vol. x., Nos. 1 and 2." The allied body urohæmato-porphyrin has hitherto been observed in the urine in the following morbid conditions—viz., Addison's disease, acute rheumatism, cirrhosis of the liver, croupous pneumonia, so-called idiopathic pericarditis, peritonitis, measles, meningitis, Hodgkin's disease, and typhoid fever;[1] and it is interesting to note the absence of any of these in the cases in question, unless Case 1 be considered as an example of Addison's disease, which, in the absence of post-mortem evidence, was not absolutely disproved. It is further interesting to note the remarkable power of resisting decomposition possessed by both urines. Even although exposed to the air during several days, they underwent no apparent change, and at the present date specimens reserved six months since, although alkaline and smelling slightly of ammonia, remain quite bright, present no evidences of putridity, and retain their original colour unchanged. With reference to the etiology of these cases, it is impossible to formulate any opinion as to the exciting cause of the grave hæmolytic change which was evidently in progress.

[1] McMunn: Clin. Chem. of Urine, p. 109.

It cannot be attributed to the acetanilide or any of its possible impurities in face of the facts that—(α) recovery from the symptoms distinctly referable to this drug was complete; (β) none was taken in Case 2; (γ) chemical analysis of identical samples proved the specimen to be pure. Treatment was based on the principle of combating the tendency to death, and this proving unavailing in Case 1, perchloride of iron in large and frequent doses was administered in Case 2 in the hope of arresting the blood change. Subjoined is a detailed analysis of the urine.

CASE I.

Date.	Quantity (ounces).	Density.	Reaction.	Albumen. HNO_3 (cold).	Albumen. Heat + HNO_3.	Picric Acid.	Sugar. Fehling.	Bile. Peptone.	Blood Pigment. Heller.	Urea per cent.	Characters.	Microscope.
Nov. 18	—	1031	Acid	No reaction	No reaction	No reaction.	No reaction.	No reaction.	No reaction.	—	Clear, deep port-wine colour.	—
„ 19	—	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	—	Do.	—
„ 24	22	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	—	Dark red (almost black when viewed in bulk), rapidly depositing deep-red lithates, chocolate grumous sediment above	Amorphous urates; uric acid crystals; no blood discs.

CASE II.

Nov. 25*												
„ 29	10½	1028	Acid	Crystalline red ring	Slowly forming slight flocculent deposit	No reaction	No reaction	Slight opalescence	Dull pink flocculent deposit	1·1	Pink sediment; supernatant fluid; turbid, dull, light red	—
„ 30	13½	1027	Do.	Orange red ring; Crystalline later	Colour deepened	Do.	Do.	No reaction	Slightly tinted flocculent deposit	—	Pale orange red; mucous deposit	—
Dec. 1	16½	1025	Do.	Do.	Do.	Do.	Do.	Do.	Dull flocculent deposit	—	Dull light red, turbid, clearing with heat	—
„ 2	36	1013	Do.	Narrow red ring	Very slight deposit	Do.	Do.	—	Slight pink deposit	1·2	Dull red; mucous deposit	—
„ 3	31	1010	Do.	Coloured ring	No reaction	Do.	Do.	—	—	1·35	Dark orange; slight mucous deposit	—
„ 4	49	1012	Do.	Do.	Colour deepened	Do.	—	—	—	1·3	Do.	—
„ 5	47	1012	Do.	Do.	Do.	Do.	—	—	—	1·2	Light orange; slight mucous deposit	Leucocytes; a few large nucleated cells and epithelium
„ 6	26	1015	Do.	No reaction	No reaction	—	—	—	—	1·25	Orange; turbid, heavy mucous deposit	
„ 7†	20	1020	Do.	Do.	Colour darkened; celery smell produced	—	—	—	—	1·1	Dull brick red; turbid, clearing with heat	—

* From this date until Nov. 29th the urine presented exactly similar characters, and gave the same reactions as in Case I. On Nov. 28th the tincture of perchloride of iron was begun.

† From this date the urine gradually resumed its natural characteristics, and the patient became convalescent on Dec. 12th.

Tunbridge Wells.

THE COMPARATIVE CLIMATOLOGY OF LONDON AND THE CHIEF ENGLISH HEALTH RESORTS.

BY BERTRAM THORNTON, M.R.C.S., L.R.C.P. LOND.,
SURGEON, ROYAL NATIONAL HOSPITAL FOR SCROFULA, MARGATE.

IN the earlier part of this year a discussion arose in the medical press on the subject of the climate at certain health resorts. It occurred to me that it would be interesting to gather together and compare the meteorological statistics of the metropolis and a *large and representative number* of the chief health and pleasure resorts. Not with the view of attempting to prove that there existed some special paradise of pleasure and health, but to place a simple record before the profession of uncomplicated statistics, which each member might easily analyse for himself. From time to time articles have appeared to show, by a vast array of figures, that some favoured locality possessed climatic advantages surpassing all its neighbours. In many instances these figures were found to be based on observations taken at irregular intervals, and under comparatively widely differing conditions; the recording instruments were not always similar, and their position as regards surrounding objects was not always alike. The battle of figures consequently went on merrily between one place and all the others, as it is perhaps likely to do till the end of time. In this article, at any rate, an effort has been made to secure uniformity of instruments and methods of calculation. The averages have been carefully calculated from the results of at least half a million observations in different parts of the kingdom, all these observations conforming to the strict and minute regulations of the Royal Meteorological Society, whose inspectors periodically visit and report upon the accuracy of the instruments at the different stations, and whose officials carefully analyse and tabulate all the facts recorded by the indefatigable army of observers. A writer who has the temerity to attempt to deal with a huge mass of statistics is likely to start a friendly combatant in every reader, for no two men can ever thoroughly agree on the interpretation of statistics. No wise man will attempt to *prove* anything by long and complicated lists of figures, perhaps he may even be considered rash to *suggest* deductions that may be drawn from them. In the words of an old German Volkslied—

> Wir stolze Menschenkinder
> Sind eitle arme Sünder,
> Und wissen gar nicht viel.
> Wir spinnen Luftgespinnste,
> Und suchen viele Künste,
> Und kommen weiter von dem Ziel!

Before entering upon the study of the climatology of England, it is a good plan, in order to bring one's mind into a suitably humble condition, to open the atlas at the map of the world on Mercator's projection; it will at once appear to the student that England is the half of a very small and rather indistinct island, and that our little storms of wind and rain are, after all, but storms in a teapot, mere eddies on the face of the great world. This is perhaps a platitude, but I venture to think it is the keystone of the present article. Medical men and the lay public (apart, perhaps, from professional meteorologists) cannot fail to be struck with the comparatively minute variations between the weather statistics of one town and another. After our ears have been dinned by the strife of factions proclaiming that some small spot on our south coast is a Monte Carlo in winter, and that its next door neighbour is a romping place for all the winds from Russia, it may come as a surprise to many that

one or two degrees of temperature will cover the difference between some of our reputed warmest and reputed coldest winter resorts. Far be it from me to suggest that temperature is the only criterion of a winter resort. The prevailing winds, the daily range of temperature, the rainfall, the relative humidity, the subsoil, the vegetation, the absence of cloud, and last, but not least, the aspect of the locality and the degree of protection by hills &c.—these all are important considerations. Perhaps the most important factor of *all*, and the one that influences most doctors and patients, is the social or fashionable reputation a place bears; and it is perhaps natural that this should be so, for the people who can afford to leave home for their health's sake are the wellborn and wealthy, who, like other men, are gregarious, and prefer to herd with their kind. There are, however, a large number of sick people whose sole business and anxiety is to regain health, who do not necessarily long for the sight of crowds of fashionably dressed people. Consequently, besides mere climatic advantages, the medical adviser has to consider many other equally important matters if his patient is to be benefited. In the month of August delicate and sensitive patients are likely to fare badly as regard comfort and quiet at such haunts of the London Cockneys as Brighton, Eastbourne, Margate, Ramsgate, &c., unless they have previously become comfortably settled in some of the quieter quarters of these towns.

Before entering on the subject of figures, I should like to acknowledge the cordial and invaluable assistance I have received from Mr. John Stokes, F.R.M.S., of Apsley House School, Margate, who has devoted much labour for many years to this subject. The figures are in nearly all instances calculated on regular daily records at all the stations for seven years—viz., 1882–1888. The figures for 1889 for some of the places were not to hand at the time of compiling this paper. A fairer estimate of the climate can be gathered by dividing the year into summer and winter in some cases; the months of May to October inclusive are considered as summer months and November to April inclusive are reckoned as winter. The colder months will probably be regarded with more interest, so I have given them greater prominence. I may here add that *all* the health resorts having stations under the reliable auspices of the Meteorological Society have been included in the various lists, if their records have covered with regularity a sufficient number of years.

TABLE I.—*Average winter and summer temperature at 33 stations for the years 1882–8 inclusive.*

Name of Station	Winter.	Summer.
Guernsey	45·5°	57·6°
Falmouth	44·9	56·4
Ilfracombe	44·9 (44·6°)	57·0
Ventnor	44·2	57·7
Teignmouth	43·8	57·0
Weymouth	43·5	56·8
Torquay	43·5 (43·3°)	55·9
Babbacombe	43·4	56·1
Plymouth	43·4	56·2
Weston-super-Mare	43·0	56·6
Llandudno	42·7 (42·5°)	55·2
Portsmouth	42·7	55·2
Southbourne (near Bournemouth)	42·5 (42·7°)	56·0
Old-street (London)	42·4	58·1*
Eastbourne	42·2 (42·2°)	56·2
Worthing	42·2	56·6
Hastings	42·2 (42·6°)	57·0
Margate	41·8 (42·3°)	56·4
Osborne	41·8 (42·1°)	56·2
Regent's Park	41·6	56·9
Ramsgate	41·6 (42·3°)	56·7
Camden-square	41·5	56·4
Norwood	41·5	56·8
Southampton	41·4	55·8
Greenwich	41·2	56·9
Kew	41·2	56·6
Blackpool	40·8 (41·2°)	53·9
Lowestoft	40·3	54·8
Scarborough	40·3 (41·3°)	54·1
Blackheath	40·7	55·9
Cromer	40·6 (40·9°)	55·4
Cheltenham	40·6 (41·3°)	55·0
Bath	40·2 (40·6°)	53·5†
Mean for the above stations	42·2	56·1

NOTE.—The figures in parentheses show the average temperature for the months of February, March, and April, 1882–8.
* Highest. † Lowest.

If judged by temperature alone many places on the above list would have to take a higher or lower place as winter residences for invalids than they have hitherto held in popular estimation. But one cannot judge "climate" by this simple method alone. Many persons are thoughtlessly sent away, either abroad or on sea voyages, or to some English health resort, who are far past any help change of climate can give; they start from a comfortable home full of hope soon doomed to disappointment, and their last hours, far from all their friends, are spent in bitter hopeless longing to be once more at home and there await the summons that bids them go hence. Again it is necessary in many instances for a medical man to take into consideration what I may venture to call the personal equation of his patient, whether he feels cold or heat more keenly in a bracing or in a relaxing climate.

In the above list the point that surprised me most (as it may also surprise others) was the position of Bath and Cheltenham at the bottom of the list; later on it will be seen that Bath has also the highest degree of relative humidity (86), though Cheltenham is four degrees less. These two places had always borne to me the reputation of being warm and even oppressively sultry towns. Is the explanation of this that a high degree of moisture in the air causes the sensation of cold to be less felt by some individuals in cold weather, but the sensation of heat to be more intolerable in the summer months? It is here, perhaps, that the personal equation comes in; many people feel both cold and heat more intensely when the atmosphere is laden with moisture (irrespective of the exhilarating effects of bright sunshine). The skin is the chief organ of sensation, and it is the organ that regulates our temperature. Even as the functional powers of the heart or kidneys vary in different persons so it is probable that the skin of one individual differs from that of another; hence the various opinions that are expressed by different observers on the climate in any given locality.

It will be seen that the relative positions of the stations in Table I. bear out very fairly the popular opinion that the temperature decreases as one approaches the north or east; no less than 17 stations (including Weston-super-Mare in the west and Margate in the extreme east) being within one degree above or below the mean temperature (42·2°), and that between the highest on the list in England (Falmouth) and the lowest (Bath) there is only a difference of 4·7°. I will now give a list of stations with their daily range of temperature calculated for the same period.

TABLE II.—*Daily range of temperature at 26 stations for the years 1882–8 inclusive.*

Ilfracombe	8·4°	Babbacombe	11·7°
Guernsey	9·1	Hastings	11·8
Falmouth	9·5	Cromer	12
Scarborough	10	Ramsgate	12
Llandudno	10·1	Old-street (City)	12·2
Weymouth	10·3	Southbourne	12·2
Ventnor	10·5	Teignmouth	12·4
Torquay	10·8	Bath	12·4
Margate	10·9	Regent's Park	13·3
Blackpool	11·1	Portsmouth	13·8
Weston-super-Mare	11·3	Norwood	14
Lowestoft	11·4	Cheltenham	15
Worthing	11·5	Southampton	15·5

Mean daily range for the above stations, 11·6.

Again, it is strange that the last name on the list should be a town on the south coast like Southampton, where one might expect a fairly equable temperature. In this list it seems hopeless to group any districts or draw any deductions. It is surprising to find such towns as Scarborough, Ventnor, Torquay, and Margate all within a degree of each other. On the whole the difference between the highest and lowest daily range (7·1°) seems to be fairly large for so limited a space as England. According to Buchan the rate of mortality is to a large extent determined by the range of temperature. "Everywhere it is least in winter, augments rapidly in March and April, reaches the maximum in May or June, continues high during summer, and diminishes rapidly in October and November to the minimum in the winter months." It is least in wet climates, and greatest in dry and temperate climates.

Before leaving the subject of temperature I should like to be able to give the record of sunshine at all these different stations. I have found, however, that during the years referred to in this paper the records have not been sufficiently numerous or regular to give a fair estimate. I have, therefore, omitted statistics on this subject. The importance of bright sunshine to invalids cannot be overestimated, especially when the temperature is not too low, and the winds are not cold and cutting. Many a delicate patient has received his death sentence at some of the

reputed warm health resorts on the south coast, such as Hastings, Eastbourne, Torquay, &c., by being lured by a bright and smiling sun into a deadly and depressing east wind. Perhaps in the Riviera these cases are even more frequent, for the greater reputation a place has for warmth the more careless are invalids and their attendants as regards warm clothing, and the duration of the daily airing.

The records of the winds are very difficult to make out, and when made out are not very reliable—in fact, in many cases for the purposes of comparative climatology they are absolutely misleading; in the first place, it is almost impossible to give a comprehensible estimate of the ever-varying pressure, from a "calm" at three miles an hour (Beaufort scale) to a light breeze at thirteen miles, a fresh breeze at twenty-eight miles, or a moderate gale at forty miles an hour; any one of these pressures might last a minute or a dozen hours. Again, in town stations winds are deflected from their right course down streets and along promenades, trees, buildings, and elevations of ground, all helping to check their force or alter their direction, so that a dozen recording instruments in as many square acres of an exposed town might all show different readings. The chief cause of our east winds in spring is the heating of the north of Africa and south of Europe, the air in these parts, expanding, flows upwards, thus setting in motion an indraught of air from the north of Russia to take its place. (Buchan.)

The next subject of importance is the degree of moisture in the atmosphere, and this is estimated with comparative accuracy in the calculations for rainfall and relative humidity.

TABLE III.—*Average yearly rainfall in inches at thirty-one stations.*

Station.	Subsoil.	Amount in in.
Margate	Chalk	22·98
Blackheath	Sand and gravel	23·17
Ramsgate	Chalk	23·34
Kew	——	23·43
Lowestoft	Gravel	24·09
Camden-square	——	24·64
Regent's Park	London clay	25·16
Portsmouth	Bagshot sands, London clay, &c.	26·39
Scarborough	Loam on clay	26·68
Old-street (City)	——	26·92
Worthing	Sandy loam over chalk	27·01
Southbourne, near Bournemouth	Sand over gravel	27·12
Osborne	Partly clay, partly gravel	27·33
Llandudno	Limestone	27·52
Weymouth	Sand, shingle, and clay	27·61
Cromer	Norwich crag and blue clay	27·78
Ventnor	Lower greensand	28·33
Cheltenham	Sandy in lower part, blue clay, gravel	28·64
Hastings	Sand on sandstone, belt of clay inland	29·26
Eastbourne	West end chalk, centre and east loam	29·53
Southampton	Middle eocene	29·79
Weston-super-Mare	Mountain limestone and sand	29·81
Ilfracombe	Shales over sandstone	31·53
Bath	Upper parts oölite, lower chiefly limestone	31·71
Torquay	Nine-tenths on limestone	31·72
Teignmouth	Chiefly marl, lower parts sand	32·28
Blackpool	Turf, with clay below	32·95
Guernsey	——	33·28
Plymouth	Three-fourths slate, one-fourth limestone	34·04
Babbacombe	Limestone	35·26
Falmouth	Slate on quartz	43·49

Mean rainfall of above stations, 28·79.

The south-west and the west winds, laden with moisture from the Atlantic, deposit their moisture when first they meet the western shores of England; consequently it will be seen that the western districts in the above table have the heaviest rainfall, and the towns on the east coast, generally speaking, have the least. In comparing statistics of rainfall minutely, it is important to ascertain whether the rain falls in steady, heavy showers, with long intervals between them, or whether the rain falls in a prolonged or frequently recurring drizzle. In the Riviera one gets either heavy rain or fine weather. Mr. Symons, F.R.S., gives the record for the mean rainfall for twenty-four years at Cannes, as taken by Lord Brougham, as 31·89 in., and Nice as 32·2 in. for thirty years. To show how unreliable weather statistics may be, and rainfall statistics in particular, I would note the rainfall at Lord Brougham's villa at Cannes for the years 1872 and 1875. In the former it was as much as 59·40 in., in the latter only 18·60 in. Similar extremes must frequently occur in England, and often lead people to form very erroneous opinions about any place they may be temporarily staying at. It also shows how important it is to have statistics spreading over a large number of years. Seven years is, unfortunately, the longest period we have here in England at present to calculate from, if we wish to secure scientific uniformity of instruments and accuracy in the method of calculation over this particular range of districts. This, of course, refers to other matters more than rainfall. In reference to the quantity of rain, it is important to take note of the subsoil of a district, not forgetting its degree of inclination and its power of draining away the water. It is only necessary to allude to the advantage a light, porous soil (chalk, sand, gravel, &c.) has over a heavy and impermeable soil of clay, both as regards health and climate. The lighter soils, also especially sand, absorb and give off more heat than the heavier ones. The subject of rainfall leads naturally to the consideration of the even more important one—of the relative humidity of the atmosphere. This term is used to express the percentage of saturation of the air with aqueous vapour.

TABLE IV.—*Average relative humidity at 26 stations for the years 1882–88 inclusive, 100 representing complete saturation of the air.*

Old-street (City)	77	Hastings	82
Llandudno	79	Portsmouth	82
Norwood	80	Teignmouth	82
Regent's Park	80	Southbourne	82
Torquay	80	Worthing	82
Ventnor	80	Blackpool	83
Babbacombe	81	Lowestoft	83
Falmouth	81	Scarborough	83
Margate	81	Weston-super-Mare	83
Ramsgate	81	Cromer	85
Southampton	81	Guernsey	85
Weymouth	81	Ilfracombe	86
Cheltenham	82	Bath	86

Mean relative humidity for above stations, 81·8.

Again it is difficult to analyse satisfactorily the stations by any comparison or grouping of their geographical positions—e.g., Cromer and Ilfracombe, nearly at the bottom of the list, with the same degree of relative humidity. The so-called *bracing* towns being indiscriminately mixed with the towns noted for *relaxing* qualities. It is true that, omitting a nondescript station like Old-street, there is only a difference of seven degrees between the highest and lowest towns on the list.

Evaporation from the lungs and skin must necessarily be affected by the degree of moisture in the air. Chronic consumptive patients as a rule prefer a moderate degree of humidity, hot, dry air irritating the lungs and increasing cough. A cold, dry air, on the other hand, if there is no wind, is frequently borne with comfort; this is probably one of the reasons why Davos Platz and Maloja have a high reputation in many lung cases. In Dr. Tucker Wise's work on "Alpine Winter" the mean temperature for the winter months of 1884-85 is 26° F., and the dryness of the air is very much greater even than that of Egypt. At Maloja great attention has apparently been given to the warming and constant renewal of the air in the Kursaal, where patients must necessarily pass the greater part of the twenty-four hours; this important consideration is almost universally neglected in private seaside apartments, hotels, and public institutions in England and on the Continent, where everything is sacrificed for the chance of a few hours' airing in the middle of the day. Some day, perhaps, the climate of dwelling rooms and bedrooms will receive the same attention from sanitarians as the weather does from meteorologists, an in-door climate is at least more or less controllable, whereas even a forecast does not yet seem to modify the weather. In these days of electropathic belt and similar amulets one ought to mention electricity as one of the many factors of climate, as well as the somewhat allied subject of ozone; unfortunately at present we know next to nothing about either of them from scientific observation, though many of us, in common with the rest of the animal creation, can testify to very powerful and depressing influences acting mysteriously upon us when a thunderstorm disturbs the electrical condition of the atmosphere. I have considered it out of the province of this article to endeavour to point out the suitable climates for various diseases. Most medical men practising in health resorts must necessarily be more or less biased in favour of the virtues of their own locality, and no good end is served by special pleading or *ex-parte* statements. Distinguished specialists have written and expressed their theories and experiences on disease and its treatment

at all the known health resorts; sometimes they have personal knowledge of the places, more often they have not.

The object I have in this paper is to give lists of concentrated statistics on weather in all the available English health resorts, in order that members of the profession might take them for what they are worth, and occasionally perhaps pick out some locality for special ailments, without regard to the reputation it holds in the eyes of some fashionable physician or in the eyes of the fashionable public. The general aspect of a town, and even of a single street or house, is in many instances worth a mile of statistics; no description on paper by any one man could ever satisfactorily convey to the minds of the public the aspects of a score of towns. I can speak for my own town, and can tell those who do not know Margate that they can find warm parts even in winter. The inhabitants group together on the southern and south-western sides of the town, leaving the more exposed Cliftonville district for visitors who like the cool breezes in summer. In most seaside towns there are warm and cold quarters, and the inhabitants and knowing visitors are the first to seek them out. From the figures I have tried to place in simple uncomplicated columns it will be seen that our English climate does not, after all, differ as much as is sometimes supposed, even in the farthest separated localities. Poets and cynics are never tired of proclaiming the unfathomable character and changeableness of woman. Some day a philosopher may arise who may be privileged to reveal the meaning of even these deep mysteries, but the mind cannot realise the possibility of any future sage penetrating into those distant and secret regions where sit the relentless deities who disarrange the weather of our suffering island. I hope that this paper may, in a small way, help to take the subject of the climate of our health resorts out of the region of mere hearsay, and enable the profession and the public to esteem at its right worth the silent but arduous labour of all those gentlemen in different parts of the kingdom, without whose unwearying industry these imperfect notes could not have been written.

Margate.

CAVERNOUS ANGIOMA OF THE CHEEK; ITS SURGICAL CURE.

BY E. BOTTINI,

PROFESSOR OF OPERATIVE SURGERY IN THE UNIVERSITY OF PAVIA.

BY "cavernous angioma" we understand a tumour formed by ectasic or varicose veins. Porta, in his learned monograph on "Angectasia," read at a meeting (Feb. 7th, 1861) of the Lombardo-Venetian Institute, defines the tumour as "angectasia venosa," and rightly observes that it has its ordinary seat in the mucous membranes and relative cellular tissue. Hueter, in his admirable "Surgery," remarks that in the cheek the development of the submucous veins assumes a special preponderance, readily transforming itself into "angioma venosum," or rather into cavernous venous tumour (*der cavernösen Venen Geschwulst*). This tumour finds its natural exemplar in the structure of the corpora cavernosa of the penis, with this difference, however, that the lacunæ or vascular alveoli are in the neoplasm more enlarged. More than any other angioma, it runs an aggressive course, attacking and destroying the more adjacent tissues, to acquire for itself the space necessary for its ever-increasing proportions. In this work of demolition it respects neither aponeuroses nor muscles, but corrodes and uses up even the cartilaginous and osseous structures. Given a tumour of this kind in the cheek, and it is easy to understand its rapid development; equally easy to imagine the ravages it can inflict on the soft parts which can offer it no effective resistance. And therefore the need of providing such resistance is imposed on us, not so much to repair the unsightly disfigurement as to guard against a serious—nay, a grave—menace to life itself. Surgical intervention, so rich in effective resources against capillary angiomata, "telangectasiæ," and erectile tumours with an arterial basis, has up till now shown but a feeble front against "angiomata varicosa." The bistoury, which is vaunted by many surgeons as the chief among curative agents in "angectasiæ," cannot be employed in the alteration in question, not only because of the grave hæmorrhage, but because of the enormous loss of substance which can in no way be made good. Porta recommends the use of the seton, and calls it a "rational means; not always, however, effective." It is not necessary to demonstrate that, if that expedient could be discussed in his day, when the antiseptic system was unknown, its claims could not possibly be vindicated now. Nor shall I waste time by enlarging on the worth of any other proposals, which, if serviceable in other varieties of angioma, did not, and do not now, possess any value in that particular angioma we are considering.

I cannot omit from mention that in the medical journals, from time to time, there have appeared laudations of the advantages of electrolysis. Even, however, where it makes a partial approach to the end in view, I am convinced that it does so rather by its electro-caustic than by its electrochemical virtue. I know this expedient, and, indeed, remember to have employed it on more than one occasion, but always with the same disappointing results. In this connexion I may cite my first clinical observation on cavernous angiomata, described by me at page 191 of my paper on the "Galvano-caustic Treatment in Practical Surgery." The case was that of a boy of thirteen, now one of the most distinguished professors in the Faculty of Natural Science in the University of Turin. He was affected with cavernous angioma invading all the left cheek, and on this were fruitlessly expended all the remedial agents suggested in such cases, not only by Italian surgeons, but even by the most celebrated among those of other countries. On this boy electrolysis was practised during some thirty sittings, and all without the slightest benefit; nay, if we may believe his mother, with sensible and manifest injury. Then it was, and in this very case, that the idea occurred to me of transfixing the tumour in its greatest diameter, planting in it pins of platinum, and rendering them incandescent by means of an electric battery. This expedient, which affords, if you like, a far-off reminiscence of the seton suggested by Porta, yielded a brilliant response in the disappearance of the tumour, with this drawback, however, that it left behind disfiguring puncture marks.

In 1878, in private practice, I met with a similar case—that of a girl aged seven, the daughter of tenant-farming parents resident at Confienza, in the province of Vercelli. Here, too, I adopted the same practice—that is, to transfix the tumour throughout with a tubulated needle, and, having removed this, to leave a platinum pin, which was immediately made red-hot, the number of the pins varying from four to six, inserted in a transverse as well as in a vertical direction. The coagulation of the blood ensued forthwith, and the detachment of the eschar never caused the slightest loss of blood. The tumour gradually disappeared by absorption, leaving, however, in this case also a group of whitish cicatricial spots, not conducive, certainly, to female beauty. It was then that, with a view to avoid the after disfigurement, and reflecting that the setaceum candens acted only by coagulating the sanguineous mass in the lacunæ of the tumour, I decided, on the first opportunity, to have recourse to coagulating injections, as conducing to the same result, with an imperceptible capillary aperture, which could be effected from the oral cavity. I had no early opportunity of again practising this expedient, as cavernous angiomata in the cheek, without being very rare, are not to be met with at will.

In February, 1888, there was in the Operative Clinic of Pavia a case, a female child about three years old, affected with venous angioma of the right cheek. The tumour was of small proportions, with a diameter not quite so large as that of a florin. I made use of the Pravaz syringe, and, as a coagulating liquid, of Piazzi's mixture, for some time employed with decided success in the wards. (As is known, it is composed of equal parts of a saturated solution of chloride of sodium in water and of a neutral solution of perchloride of iron at 20° Beaumé.) I made three injections at equal distances in the body of the tumour, proceeding from the oral cavity. The child gave a convulsive cry, contorted herself, became cyanotic, then asphyxiated, the respiration and the cardiac rhythm soon coming to a standstill. All our efforts to re-establish natural by artificial respiration were, unfortunately, without avail. At the necropsy we found the tumour solidly occupied by coagulated blood; emboli in the peripheral veins; no embolus, however, in the external and internal jugular; heart empty. This first attempt, so quickly fatal, was enough to make me shrink from repeat-

ing the experiment. Therefore I decided in analogous circumstances to return to the first method, remembering for my own benefit, "Come il meglio sia nemico del bene" (how the "better" is the sworn enemy of the "good").

At the close of last year a young woman twenty-three years of age, one G. F——, came to consult me privately. She was affected with a cavernous angioma of the left cheek, invading all its muscular thickness as far as its cutaneous integument, which was of a violet colour. The tumour, besides, protruded outwardly into the oral cavity, and, unable to confine itself within the orifice, passed over the margin of the teeth, so that the young woman was obliged for some time to keep the mouth half shut so as not to squeeze the tumour, which penetrated from one dental arch to the other. She suffered frequent hæmorrhages, either spontaneous or provoked by a tiny wound, and therefore presented a notable oligæmic aspect. With every wish to recur to the galvano-caustic treatment for this angioma, I reflected whether it was not a case for so guarding the procedure as not to leave unsightly traces, which in a young woman would have been deplorable, to say nothing of their publicly revealing the shortcomings of our art. So I decided on entering by the oral cavity into the body of the tumour with the lancet-shaped galvanic knife, and, carrying it from above downwards by a "to-and-fro" movement, and from without inwards, on forming a necrotic cross which should enclose the circuit of the tumour. The woman was anæsthetised; and just above the left labial angle, opening a passage in the sound mucous membrane, I reached with the incandescent lancet the bulk of the tumour, pushing the cautery as far as the upper pole; then with an up and down movement I practised a true cleavage in a vertical direction. Reintroducing the instrument into the centre of the tumour, I turned back the blade in the horizontal plane, and, with a double movement sideways, I made another horizontal section. The blood was distinctly heard frizzling in the body of the tumour, and with a jet of smoke there came out on the steel a little clotted blood. On removing the instrument the tumour had become entirely solid and somewhat diminished in bulk. The woman, having awoke, was put to bed again with only the application of cold water and vinegar to induce a calmative effect. I need not give a detailed report of the case, which in less than a month succeeded perfectly. The woman left the wards completely cured, not only from the angioma, but also from the semi-ankylosis of the mandible, for which during her anæsthetised state I had practised mechanical dilatation. Before coming to the Congress I got my assistant, Dr. Ferrara, to call on the young woman, who had been operated upon, for re-examination, and I was glad to note all the best signs of a complete and satisfactory cure.

With this modification—that is, replacing the setaceum candens by the thermo-galvanic knife—we succeed in obtaining a satisfactory cure without leaving any perceptible puncture marks, thus realising the best and the highest therapeutic ideal. And this procedure, which favoured me in so propitious a manner, I am now happy to make known to my colleagues of London, in the hope and expectation that in their hands it will be no less salutary. In the poverty of really effective expedients against a malady which when neglected issues inexorably in the sacrifice of the patient, you will certainly receive with favour a proposal which solves successfully the problem of associating the beautiful in art with what is beneficial to the patient.

As the subject admits of it, allow me to show you a new accumulator battery recently devised by me for a thermo-galvanic purpose. You are aware that the galvanic "dieresis," notwithstanding the recommendations of Middeldorf, Voltolini, Maas, and Paul Bruns, was not cordially received by the practical surgeon, and was, I will not say mutilated, but decapitated by the introduction of the thermo-cautery of Paquelin; and yet the services capable of being rendered by the thermo-galvanic agency are a thousand, nay, twice a thousand, times superior to what you can get out of the Paquelin instrument. Not, indeed, because with this latter you cannot turn to good account the thermic handle, the principal factor of the bloodless "dieresis," but because with the thermo-galvanic agency you can introduce an instrument into the oral as well as into the uterine cavity, even into the neck of the bladder, in a perfectly cold state; apply it in the proper position, and, when you have satisfied yourself as to the regular agreement, set fire to it; while, with the Paquelin, you have to carry into its destined position the already red-hot instrument, and thus expose yourself to cauterising and destroying all the tissues you happen to touch. This singular *modus agendi* of the electric cautery places it far above its other congener; and yet, I repeat, all surgeons—not without reason, be it said—looked with favour on the Paquelin instrument, while few troubled their heads with the galvano-caustic. And why? Because the galvano-caustic instrument, in the manner in which it is now contrived, even by those who have bestowed special study and particular favour, on it, requires, in the selection and control of the electro-generative apparatus, a series of delicate and minute attentions which the surgeon cannot always give; add to this that, notwithstanding the most scrupulous care, one cannot always be sure that its action may not let loose a series of disturbances from the quality of the acids, more or less impure, and notably from the nitric acid; from the imperfect amalgam of the zincs; and from the more or less thorough washing of the carbons and the porcelains, so that the surgeon is uncertain and apprehensive as to the mode in which the machine properly works—a mode which he cannot in any way rectify when it fails, but can only abandon it and return to the ordinary "dieresis." These imperfections in the electric production suggested different batteries, pressing well-nigh all the known systems into the service. Thus from the highly expensive Grove battery, which Middeldorf employed, one came down to the more economic battery of Bunsen, while this gave place to a third one yet more simple, that of the oxidated iron of Paul Bruns. Then came all the one-liquid piles with variants more or less happy of the Grénet type.

Having made ourselves familiar with all the piles suggested, with a one-liquid and a two-liquid pile, we must abandon the one-liquid ones (that is, the pile with the solution of bichromate of potash) since their action is capricious, imperfectly disciplined, excessive in the first contacts, then too feeble after some minutes. Unable, therefore, to have a constant and uniform current, one cannot have a constant and uniform heating-process, and therefore a disciplined thermic action necessary for the object in view. Of the other two-liquid piles, the best incomparably is that of Bunsen modified by Pischel of Breslau, and of this I have now made use for twenty years. I do not deny that, though it is the best among those known to us, it has notable defects, specially attributable to the accurate control it demands and to the density of the acids it requires to obtain a prompt and intense action, acids not always to be found at the chemist's. The vapours, moreover, of nitrous acid, besides offending patient and surgeon, attack and spoil every metallic instrument lying in the operating-room. Many duties, which we cannot ourselves attend to and have to delegate to servants, are often carelessly performed, such as the washing of the carbons and their thorough drying; and then the activity of the battery leaves much to be desired. More than once have I found myself in such difficulties, and I can quite understand the profound annoyance they may occasion. I grant, therefore, to all my colleagues the full benefit of extenuating circumstances if they end by turning their backs on the galvano-caustic instrument, and by viewing with favour the Paquelin thermo-cautery, which cannot in reason have any claim to be preferred; just as I pardon Billroth when for the bloodless "dieresis" he wrote: "That the public practitioner, between the galvanic handle and the linear contusion, had decided for the latter," an opinion which at the present moment would appear a paradox.

Desirous, therefore, of rectifying the imperfections which in the use of the galvano-thermic instrument arose from the electric source, I set myself to study the use of the accumulators. I cannot but admit that the first trials were far from encouraging, not only when made at an electric establishment of high reputation at Milan, but also when carried out at the Industrial Society's Institution at Lodi, directed by the distinguished engineer, Signor Ceresa. These experiments, however unsuccessful in their result, nevertheless convinced me that the conception was capable of being realised with a proper mode of distribution. The problem I had set myself was this: To have at command an electric power considerable enough to be susceptible of distribution in a constant, unalterable manner, according as necessity arose—that is to say, without shocks, without loss of equilibrium, and without stoppages. This force should work for a long time—for several hours—

as long, in fact, as might be required for a complex and protracted operation. It was then that, having gone to Lodi to Ing. Ceresa's institution, after unsuccessful experiments with other machinery, it occurred to me to replace the Bunsen elements of the pile (Pischel's model) used by me by other accumulators perfectly closed, to be reunited in a plane of distribution graduated by means of ordinary column commutators. Ing. Ceresa and Professor G. Gandini, director of the Laboratory of Physics in the Lodi Lyceum, fully grasped my idea in constructing the battery. I have had the honour of presenting to the last meeting of Surgery, held in Florence on April 1st of the present year, a battery which perfectly corresponds to technical requirements. It consists of four accumulators which yield an electro-motor force fully three times stronger than the respective couples of Bunsen, and which can remain operative for quite twenty-four hours without loss of intensity or of tension. The arrangement is simple, costs very little, receives its charge easily either with a dynamo (and in a few minutes) or with one or more couples of the Bunsen or any other pile. The distribution is made with the column commutators and, if need were, chain commutators might serve, as indeed they have done. The battery remains charged for many months, and may, as necessity arises, be employed immediately, without any preliminary trouble. The several accumulators are hermetically closed, and may be turned over without spilling a drop of liquid, and yet there is no emanation of any sort. The battery is, moreover, easily transportable. With this battery, which the surgeon may have always handy and fully charged in his own laboratory, and which, as it stands, can be transported anywhere with its activity constant and unimpaired, he can meet with promptitude any eventuality imposed on him by urgent necessity; and, from this point of view, the novel apparatus is yet handier, more expeditious, and more certain than Paquelin's. When its action is no longer wanted, you have nothing to do but shut the lid of the battery and it is as ready as ever for another occasion. I do not know that anything can be devised more simple, more active, and, let me add, more economical, inasmuch as the four accumulators do not cost more than 50 francs (£2) in all.

At present Signor Ceresa is making me another battery on a reduced scale, equally energetic and efficacious, with the view of rendering it, in the vicissitudes of daily practice, easily carried about in the hand. For the glass vases will be substituted wooden ones, which will lessen the risks of breakage in transport. Permit me to tender one word of praise to the distinguished directors of the Lodi Institution who so readily interpreted my idea without obliging me to have recourse to the industrial establishments abroad. The problem as to the source of the electro-caustic battery having been so resolved as to leave nothing to be desired for simplicity and effectiveness of working, I fully cherish the hope that the surgical world, abandoning other substitutes, will readily avail itself of the galvanic "dieresis." I do not suppose that recourse ought ever to be had to the galvanic "dieresis" when the ordinary battery will suffice, but I maintain that in circumstances in which the latter is either not applicable or liable to grave inconveniences it should be replaced by the thermo-galvanic. In the endo-vaginal amputation of the cervix, in that of the tongue, in amputation of the penis, in removal of voluminous hæmorrhoidal masses, surgery can point to no substitute which offers the advantages of the galvanic "dieresis."

With a sectio quite bloodless, wellnigh painless, aseptic in the absolute meaning of the word, during and after the operation, since with handle or with incandescent knife you employ the most aseptic instrument of "dieresis" imaginable on living parts, you have an eschar which, better than epithelium or epidermis, acts as a shield against putrid contamination. So that with the action of the galvanic "dieresis" prudently confined to those cases in which it claims a merited preference, and with the electrogenous apparatus rendered simple, handy, and certain, the surgeon is provided with an instrument calculated to yield advantages attainable by no other means.

FEMALE DISTRICT MEDICAL OFFICERS IN RUSSIA.—The Russian Minister of the Interior has issued a circular informing provincial administrative bodies that female practitioners may be appointed district medical officers with charge of the district hospitals.

ADENOID GROWTHS IN THE NASO-PHARYNX, COMMONLY CALLED POST-NASAL GROWTHS.[1]

BY W. R. H. STEWART,

AURAL SURGEON TO THE GREAT NORTHERN CENTRAL HOSPITAL; SURGEON TO THE LONDON THROAT HOSPITAL.

I PROPOSE in this paper to make a few remarks about adenoid growths in the naso-pharynx, commonly called post-nasal growths. I think this subject is one that should claim the special interest and attention, not only of aural surgeons, but of every practitioner of medicine and surgery, from the fact that, although it is very common, is easily diagnosed if properly looked for, and as easily got rid of if properly treated, the whole future health and prosperity of a child are at stake if the existence of these growths is not recognised and a correct line of treatment carried out; and yet the fact remains that their presence is often overlooked. The obstruction this disease causes to the proper performance of normal respiration prevents sufficient air from entering the middle ear through the Eustachian tubes, and the balance of equilibrium being thus upset, the atmospheric pressure drives in the drum-head, and this pressure, being conducted along the chain of ossicles, is exerted on the fluid contents of the labyrinth, causing a tension that will produce a most distressing tinnitus, accompanied at times by vertigo. The irritation, too, caused by both the growths and the habit of oral breathing to the mouths of the Eustachian tubes will produce an inflammatory condition, which spreads up the tubes into the cavity of the tympanum, causing that chronic catarrh so fatal to good hearing, and which by the swelling of the lining membrane of the tube shuts in all secreted mucus and inflammatory products; these will become hardened around the ossicles and tympanic cavity, and produce the consequent permanent deafness and tinnitus; or, again, a suppurative condition of the middle ear, with a perforation, and all its serious and at times even fatal sequelæ, may result. The ear, however, is not the only organ of the body that is affected, for the chest, the teeth, and even the brain may suffer, and a permanent delicacy of constitution be established. The chest is affected in both its walls and contents; the deficient amount of air inspired causes the walls to fall in; the intercostal spaces become deepened and the cartilages deformed, producing a form of pigeon-breast; whilst the unfiltered and unwarmed air passing by the mouth only carries cold and impurities to the lungs, to breed disease in those organs. The teeth, exposed to the drying influence of the air, especially at night, when the mouth is wide open for hours without being even temporarily closed, become the resting-place of various micro-organisms, and these, not being washed away by the saliva, acted on by the lips and cheeks, produce caries, whilst a lofty palate and contracted dental arch are frequently seen accompanying this disease. That the brain may be affected is palpable, from the semi-idiocy of manner and expression, and the peculiar shuffling walk so often seen in these cases. The growths, which seem to be more partial to the males than the females, are essentially a disease of childhood and early youth, the largest number of cases occurring between the ages of six and nine; and out of over eighty cases operated on by me last year, the youngest was three and the eldest sixteen years old; but on the 28th of last month I removed the growths from a woman of twenty-seven years kindly sent me by Mr. Quick, and some two years ago I operated on a woman who had reached the age of twenty-eight. This latter is, I believe, a limit record. The greater number of children are in various stages of ill health, from the ordinarily speaking delicate child to the thin, pale, scrofulous one so often met with in the out-patient department; but, on the other hand, some are quite healthy and ruddy-looking.

The disease is generally congenital, and dampness in both residence and atmosphere seems to be conducive to its development; and although, among the eighty cases I had last year, in only one instance two brothers, and in another a brother and sister, were affected; yet at times whole

[1] A paper read before the Northern Division of the Metropolitan Counties Branch of the British Medical Association, May 8th, 1890.

families are found suffering in a more or less degree, some of the deformities and other consequences being present in the parent; therefore I think I may say that heredity has its share in their production. Their structure is principally adenoid tissue covered by a cylindrical epithelium, and the situation they occupy is generally the vault, the posterior wall of the naso-pharynx, and on the pharyngeal tonsil (a bed of adenoid tissue in the vault of the pharynx). The growths—which may be few and thinly scattered, or may entirely fill up the naso-pharynx—vary in size from a pea to large masses that hang down and are partially visible behind the soft palate. There is also frequently a simple enlargement of the pharyngeal tonsil, without any other independent growths, and this may cause the same train of symptoms. These symptoms are those due to an obstruction to the proper performance of hearing and respiration; and in addition to those I have already alluded to we may get nasal speech diminished, so that the voice is altered and deficient in resonance, the *m*'s and *n*'s becoming *b*'s and *d*'s. There are also snoring, restlessness, and fright at night among the younger children, and loss of smell and, to a certain degree, of taste. One or all of these symptoms may be present, and they vary with the position and size of the growths. Thus, a small one covering or pressing on the Eustachian orifice may cause deafness and no nasal obstruction, and, on the contrary, blockage of the posterior nares may cause the nasal obstruction without deafness. The length of time the symptoms have lasted before treatment is applied for and the condition of the middle ear must make a considerable difference to the prognosis, for if taken in time there is no class of cases that give such favourable results. The general health shows marked and immediate improvement, the stupid look disappears, and the hearing power rapidly gains strength, though the assistance of Politzer's inflation may be necessary. Some of the little patients, however, declare they can hear better in twenty-four hours. But, on the other hand, if brought late for treatment, a chronic middle ear catarrh, suppurative or otherwise, may have made such ravages on the delicate contents of the tympanic cavity that the hearing power may be either greatly impaired or entirely lost. The friends and relations of the little patients, with a natural dread of all operations, frequently ask if they will not grow out of them, and there is no doubt they will, for, as a rule, the growths have shrunk away by the age of twenty; but this should never be allowed to weigh with the medical attendant, for while they are growing out of them the mischief is accomplished beyond repair. Early operation should therefore always be insisted on.

The diagnosis is easily arrived at if the precaution is taken of always making a digital examination of the naso-pharynx in all cases of nasal obstruction in children that come for treatment, for it is almost impossible in these cases to examine the posterior nares with the rhinoscope. If this precaution is not taken, the presence of these growths may be overlooked, when they are complicated with a hypertrophic rhinitis or hypertrophied tonsils; and occasionally a nasal polypus situated far back in the posterior nares or still more rarely a naso-pharyngeal polyp, may be mistaken for these growths; but all these difficulties disappear if the trouble is taken to simply pass the finger into the naso-pharynx, and the best way to do this is as follows:—First paint the pharynx and fauces with a 20 per cent. solution of cocaine; stand behind the patient, and, having first placed a towel over the head (and the reason for this in hospital practice is very frequently too sufficiently obvious), pass the left arm round the neck, and place the left thumb on the front teeth of the lower jaw, taking the precaution to cover the thumb with the end of the towel if the teeth are sharp; you will then have immense power over the patient, and be able not only to prevent him from closing his teeth on your fingers, but, having got his head in "chancery," prevent him from moving it. Pass the forefinger of the right hand quickly and gently to the pharynx, and, hooking it round the soft palate, carefully search the regions of the Eustachian orifices, the posterior nares, the vault and wall of the naso-pharynx, and the pharyngeal tonsil. If growths are found, it is as well to take the opportunity of giving the soft ones a scraping with the finger-nail, for in this way many may be removed, and in some cases when the growths are few and soft nothing further is required.

With regard to treatment, there are, not the proverbial three courses open, but only two. These are, either to destroy the growths with the galvano-cautery or caustics, or to cut them away, and a variety of instruments have been devised to these ends. For the destruction by cautery an electrode, the platinum end of which is completely surrounded by bone, should be used. This is guided to the growth by the forefinger of the left hand. The point is then exposed, and the current turned on. For a caustic, nitrate of silver or chromic acid is best. It should be fused in a platinum crucible. The end of the probe is dipped in, lightly coated, and then conducted to the growth in the same way as the cautery. I have no great faith in either of these methods, and only use them in cases of pronounced bleeders when other procedures are impracticable. To remove the growths, various forceps, ring knives, and curettes are used, and all are more or less useful, such as Meyer's oval cutting ring knife, Mackenzie's sliding forceps, Löwenberg's forceps and post-nasal curette, the armed finger sheath with its cutting edge, and a variety of others; but the instruments I always rely on now are Gottstein's newest pattern ring knife, my own unprotected finger-nail, and Woakes' modification of Löwenberg's forceps, the modification consisting in the prolongation backwards of the cutting edges and an extra twist in the blades. This year I have operated on at least two cases a week, and I have used nothing but Gottstein's knife and my finger-nail. The knife is shaped to fit the vault of the pharynx, and has the very great advantages of being quick in its action and safe. The only drawback I at present see to its use is that, as a rule, the growths thus cut off are swallowed, and you cannot show them to the patient's friends. When operating I always have the patient under chloroform.

I consider this the best anæsthetic in these cases for the following reasons: (1) Other anæsthetics do not keep the patient sufficiently quiet; (2) the vapour can be easily blown into the mouth while you are operating with a Junker's inhaler, and so the effect kept up; (3) children, who are almost our only patients, take chloroform, as is well known; and (4) the sickness that follows comes not as a curse, as it does in some operations that require perfect quietude after the operation, but rather as a blessing, for it helps to get rid of any blood that may have been swallowed. Some aurists give no anæsthetics, and Chiari of Vienna, who is said to be one of the most skilful of operators in these cases, removes them through the nose without one. But as we are not all Chiaris, and it is our duty to give as little needless suffering and discomfort to the patient as possible, an anæsthetic ought, I think, to be given; for putting aside the question of actual pain, the fright and shock to most children must be very great, and another consideration is that it gives less trouble to the operator. With regard to position. Some prefer the head hanging over the end of the table, so that all blood may flow out of the nostrils and none be swallowed or inhaled; but I do not see any necessity for this. It makes, if possible, a greater mess; and I think one has more room if the patient lies perfectly straight. I have only once had a slight complication from inhaling blood in all the cases I have operated on, and as far as I can gather from others they are extremely rare. In my case, a private one, the patient was very delicate, and on the second day there were some slight pneumonic signs on both sides, which I put down as the result of inhaling a small quantity of blood. There was also some gastritis, with sickness after food. She, however, I am glad to say, got perfectly well in a few days. When under chloroform a gag should be placed in the mouth on the opposite side to which you stand when operating. The ring knife is then passed behind the soft palate and pushed to the vault, then one sweep down the centre and one on each side will be found sufficient to clear the naso-pharynx in most cases, but should any small portions remain behind they will easily come away when scraped with the finger-nail. There is perhaps a little more bleeding at the time than with the forceps, but this is amply compensated for by the rapidity with which the operation can be completed; the time and trouble taken sometimes in catching the very movable growths frequently found in the pharyngeal wall, and the continual mopping with the sponge one sometimes sees, are also avoided. If the forceps are employed pass them along the first finger of the left hand until the growth is reached, and cut it off close to the mucous surface. Do not pass the forceps without the finger as a guide, as I have seen done, and, as a consequence, on one occasion, the whole mucous membrane covering the posterior part of the septum with a portion of the bone itself came away. The finger should not be withdrawn if

possible until the space is cleared; there is seldom if ever any necessity, if the patient is kept quiet and there is no vomiting, to keep applying the sponge and endeavouring to stanch the bleeding each time the forceps are removed; it needlessly prolongs the operation, and the finger, and on occasions a great portion of the hand, serves to a certain extent as a plug. To the uninitiated there always seems an enormous quantity of blood, and for this reason it is advisable not to allow any lay friends or relatives of the patient to be present if it can possibly be avoided; the bleeding as a rule stops immediately the gag is removed. It adds greatly to the comfort of the patient if some warm water is syringed gently through the nostrils and allowed to run out through the mouth before he comes round, as it washes away clots and débris. For after-treatment I generally leave the patients alone for twenty-four hours, keeping them, if possible, in bed. The next two or three days I have a warm boracic wash syringed through the nostrils twice a day, and then an alkaline wash, such as borax and bicarbonate of soda, of each twelve grains, three grains of carbolic acid, and perhaps three minims of tincture of iodine to the ounce of water. This should be warmed, and sniffed or sprayed through the nose twice a day. It has to be continued for a varying time, from a week or two to months, the longer time being required when a chronic hypertrophic rhinitis coexists.

When possible, operate at the patients' homes or wherever they are staying, or take them into a nursing home or hospital for twenty-four hours, or, if they are obliged to go home, warn them against the danger of taking cold, for in a few of my cases where otorrhœa existed the discharge was increased; in one or two instances an old one reappeared, and in one case a rather severe attack of acute middle-ear suppuration set in, with an inflammatory condition down the sterno-mastoid, accompanied by great pain. All these complications occurred in hospital patients who returned home within an hour or so of the operation and caught cold going home; they happily all got well, but in the last case the result was some loss of hearing power. The time taken to effect a complete cure varies from a week or two to a few months, the longer time being more especially necessary when chronic rhinitis complicates the case, but in an ordinary uncomplicated case the patient is generally well in a week.

There is one other rock ahead I might mention before concluding, and that is a hæmorrhagic diathesis; it is rare, and can to a certain degree be steered clear of if a little trouble is taken to inquire into the patient's history. These unfortunates must, as I said before, be treated by caustics or cautery. I have only seen one case where a complication of this sort occurred; it was not one of my own, but I happened to be present, and the only way the bleeding was controlled was by thoroughly plugging the naso-pharynx with antiseptic wool, and this had to be kept in for some considerable time. A rather extraordinary case also occurred, I hear, a short time ago at one of our London hospitals. After removal of a few growths there was a sudden gush of blood, with immediate death as the result. "The operation was performed with Woakes' modified Löwenberg's forceps; the posterior wall of the naso-pharynx had been cleared, and the operator was proceeding to remove a growth from the right side, when the fatal gush of venous blood took place. Unfortunately, no post-mortem examination was allowed, but the supposition was that an enlarged vein of the pharyrgeal plexus was torn down." This is how the case was related to me. We know that the veins of this plexus are at times very large, but this hardly explains to my mind the almost instantaneous death. It, however, directs attention to a most serious danger in these operations, and, I think, is a point scored in favour of the ring knife. I can only repeat what has so often been said before, that it would greatly add to our knowledge if men would only publish their failures as well as their successes.

Devonshire-street, W.

YORKSHIRE COLLEGE.—Plans for the new medical department of the College, which is about to be erected on the site acquired near the General Infirmary, are, we learn, in preparation. Accommodation is to be provided for about 400 students, and it is intended that it shall be one of the best equipped institutions of the kind in the country. With that purpose in view, Mr. Thorp, the architect, is at present visiting the medical schools of Newcastle, Edinburgh, Cambridge, and London.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF LIVER ABSCESS WITH DISCHARGE OF GALL-STONES.

BY J. R. WHITE, M.B.

IN March, 1889, Mrs. O——, aged fifty-six, came under my care suffering from a hardened tumour, painful and tender, in the hypogastric region, below and somewhat to the right of the ensiform cartilage. A consultation was held, and it was decided to incise the part, the diagnosis being deep-seated abscess with possible cancer of liver. After incision no pus escaped, but a week afterwards a purulent discharge took place in the site of the puncture; this was poulticed, and about two months afterwards several gall-stones were discharged. Since then, at intervals of about a month, a discharge of gall-stones has taken place, varying in number at different times. The last discharge occurred a few days ago, when five were extruded. The number altogether in my possession is seventy-four, varying in size and shape, but mostly facetted and up to ten grains in weight. They are striated in appearance, and no doubt composed chiefly of cholesterine. The constitutional symptoms in this case were some fever, skin yellowish, tongue foul, fæces pale, and urine turbid. I think it is impossible to predicate, without the evidence of a necropsy, the exact state of things, but consider we are justified in saying there has been obstruction of either or both the cystic and common ducts, and adhesion with ulceration between them and the liver. I should consider a probable cause of the disease would be fatty degeneration of the liver and gall-bladder, which latter, according to Budd, is analogous to the atheromatous disease of arteries, and causes an undue secretion of cholesterine. As the liver, from being considerably swollen at first, has latterly become much shrunken, I should say, no doubt, a large portion of its secreting structure is destroyed; but instances are on record where in such circumstances life has been prolonged for many years.

Brentwood.

A CASE OF LUPUS VULGARIS.

BY WM. BULL, F.R.C.S.ED.

MRS. E——, aged thirty-eight, married, no children, a native of Devonshire, has lived in various parts of London for seventeen years. She is stout built, fair haired, and for her social status very intelligent. She appears to be in very good general health, but for some few years, owing to bad teeth, she has suffered from dyspepsia. When a child she had a severe blow on the nose, which led to loss of the septum and consequent flattening. Her family history is good, and no evidence of constitutional or acquired syphilis can be traced. Her father and mother are both living. The disease first made its appearance on the left cheek, about sixteen years ago, by the formation of what she calls "little knobs" under the skin. At first no attention was paid to these, but when she found them spreading she applied for treatment, which consisted of scraping and the application of acids. This led to what she describes as two severe attacks of erysipelas, and the pain and untoward result induced her to decline further treatment. For six years or more the disease had gone on spreading. I first saw her on April 22nd, 1890, while she was doing some housework at the house of a relative, and, as much out of curiosity to have such a case to watch as with any hope of successful treatment, I took her under my charge. At this time the disease had spread over both cheeks across the nose; there was ectropion of the left lower lid, and there were patches on the right eyebrow and forehead. I first commenced the treatment by applying ethylate of sodium, as recommended by Mr. Taylor of Handsworth; but the separation of the scab resulted in no benefit, and the application in spite of

cocaine (10 per cent. solution applied ten minutes before) was most painful, although the pain did not last very long. In all, I made four applications of the ethylate. At the same time I gave the patient fifteen-minim doses of Donovan's solution. I next applied Unna's salicylic acid (20 per cent.) and creasote (40 per cent.), plaster mull to part of the disease, and lactic acid (pure) to a patch on the left cheek, until I noticed a slough from the latter. This I dressed with zinc oxide plaster mull until healed, but without curing the disease. I then abandoned all local treatment for Unna's, using his stronger preparations of salicylic acid, and dressing the parts afterwards with zinc oxide. Finally, any nodules that I could feel I treated as follows: I made an incision with a broad cataract needle through the centre, and through this introduced a small portion of absorbent wool saturated with a solution consisting of carbolic acid, four parts; perchloride of mercury, one part; alcohol, twenty parts. The patient is still taking Donovan's solution, but I intend to give her tartrate of iron and arsenic. When I last saw her, ten days ago, her appearance had very much improved.

Remarks.—It is very rarely that such a case falls into the hands of the general practitioner, and it is for that reason that I publish it, as well as to confirm Unna's statement that salicylic acid will cure lupus. Combined with creasote its pain is much lessened; a 50 per cent. mull of the acid alone causes pain all the time it is in contact with the skin, but it more quickly cures. I kept up the application until the diseased patches seemed as if dug out, then I dressed with zinc oxide. But by far the best way of dealing with the disease is by means of the carbolic and mercury solution, more especially in its early stages. The application has also the merit of being almost painless, and leaves no very perceptible scar behind. Of course I cannot as yet say whether my patient is absolutely free from the disease, and I have requested her to call every few weeks for examination. What part, if any, did Donovan's solution play in the case? I claim nothing new for the treatment, and publish the case simply for the encouragement of other general practitioners. The treatment with Unna's plaster mulls lasted six weeks in all.

Shepherd's Bush-road, W.

A CASE OF COMPLETE INVERSION OF UTERUS.

By H. McQUADE, B.A., M.B.

AT 5 o'clock in the afternoon of July 2nd the husband of Mrs. G—— called, and urgently requested my immediate attendance on his wife, as he thought she was dying, at the same time handing me a note from Dr. X——, who was in attendance on her in her second confinement. Dr. X—— was sent for at 1 P.M.; but, finding the pains not strong and labour not far advanced, he went downstairs, leaving the nurse instructions to send for him when the pains were stronger. The nurse, however, did not do so, as the child was born in the night-stool when Dr. X—— returned to the room at 2.30 P.M. After separating the child the patient was carried to the bed, when she did not seem to suffer from her former awkward position beyond a severe gush of hæmorrhage, which was readily controlled by abdominal pressure. The usual time was allowed for the placenta to separate, and Dr. X—— then tried to express it, but found he could not do so. As she did not suffer from the effects of waiting he decided to give it more time. An hour after the birth of the child he tried again, but failed to express it. He waited some time again, and after an interval of two hours, when the ordinary means failed to effect its expulsion, he introduced his hand into the uterus to remove it. I cannot describe exactly what steps he took to do so; but, to use the patient's words, "he told me to bear down. I did so, and found something tearing away from my side, a fearful pain, and I remember no more."

On arrival, I found the patient in a state of profound collapse, pulseless, with blanched look and clammy skin. Protruding outside the vulva was to be seen the large globular mass of the completely inverted uterus, with the placenta attached and adherent throughout its whole surface. The hæmorrhage was profuse, but not alarming. After administering brandy freely and ordering hot bottles to be prepared, I tried to reduce it with the placenta attached, but this I found impossible. As there was not much time to be lost, I carefully detached the placenta as quickly as possible, and applied pressure to the fundus with my hollow hand, when it gradually receded into the vagina after ten minutes' application; pressure was still continued on the fundus, taking care to do so in the proper axis of the pelvis and with the other hand on the abdomen, when it suddenly became reinverted. I followed up the fundus with my hand, and allowed it to remain in the cavity of the uterus until I had syringed it out with perchloride of mercury solution; this excited the uterus to contract, and I then withdrew my hand, taking care to have command of the fundus through the abdominal walls.

The patient slowly recovered from the effects of the shock, but was very weak and had to be supported by the free administration of stimulants and beef essence. The uterus was washed out daily for ten days; during this period the lochia was rather fetid, but now is normal in character. Milk never appeared in the breasts; she had retention of urine for six days. Apart from this inconvenience, she has recovered without a single bad symptom or complication.

Bristol.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

A CASE OF LARGE MOLLUSCUM FIBROSUM; OPERATION; RECOVERY.

(Under the care of Mr. JOHN H. MORGAN.)

THE following case is an example of the removal of a tumour of large size; also of the rapid healing of the wound under the double cyanide dressing recently introduced to the profession by Sir Joseph Lister. We do not in the present day often meet with large tumours of innocent character in this country; there is greater confidence in the surgeon's art, and application is usually made for relief before very large proportions are reached. In India and the East it is not uncommon, however, to meet with enormous elephantoid tumours, especially of the scrotum; in fact, they grow to so large a size that they may weigh even more than the patient himself. It is reported that one was removed recently in Calcutta which weighed 140 lb., and that the patient recovered after the operation.

Mr. Morgan's patient was a miner from South Wales, aged twenty-eight, who was sent to Charing-cross Hospital by Dr. Verity of Garndiffaith, Pontypool, who had known him from childhood. The patient was designated in the district "the man with the elephant's ear." The tumour was noticed at birth, and commenced as a red spot near the left nipple. It has continued to grow until the present time, when it has attained the enormous proportions which have earned for its possessor the above sobriquet. It extends from the level of the nipple to below that of the trochanter. From the middle of the thorax to the posterior margin of the scapula was about four inches in depth; from this base there hangs an enormous pendulous mass to the level above stated. The superficial covering consists of skin, lightly pigmented, and stained in patches to a light purple by capillary nævus. The papillæ are large and the sebaceous follicles are deep, but the hairs are very light and thin except over the scapula, where they are long and delicate. The mass is very heavy, of a doughy consistence, and some large veins run upwards from its base towards the axilla. The left nipple has been dragged down to at least five inches below its normal level, and is somewhat exaggerated in size, as is also the mammary tissue beneath it. In the folds of the growth, in a vertical line with the axilla, and at a level with the displaced nipple, can be felt a mass of enlarged lymphatic glands. The patient has always had good health, and is only anxious for the removal of the growth

on account of its great weight, as well as on account of the unpleasant smell which arose from it when he became heated in his work in the mines. The mass was removed by Mr. Morgan on April 1st, and owing to its having been raised for some time previous to the operation, so as to empty it of blood, there was not much hæmorrhage, and few vessels, principally veins, required ligature. The edges of the incision were so planned that they came into accurate apposition without any straining, and none of

the loose subcutaneous tissue was left except a very small amount at the inner surface. The wound, which extended round half the body of the patient, was dressed with double cyanide and united rapidly. The patient had no bad symptoms, and healing was completed at the end of three weeks, when he returned to Wales and resumed his work in the mines. The tumour, when removed and empty of blood, weighed exactly four pounds. A section showed it to consist of a vastly hypertrophied cellular tissue, in which was a very large number of veins.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

INTUBATION OF THE LARYNX IN A CASE OF DIPHTHERIA; REMARKS.

(Under the care of Dr. T. BARLOW.)

AT the present time, when intubation of the larynx for the relief of dyspnœa, the result of diphtheria, is being somewhat frequently practised, the following case will be of interest as an example of one of the dangers which may accompany the operation. The results of this operation are better now than formerly; at the present day it is performed with less hesitation, and in cases where at one time it would have hardly been recommended. Dr. Ingals[1] considers that more careful attention to the case after the operation has been performed has much to do with bringing about these results, especially in regard to feeding, and the administration of mercurials to prevent the extension of the pseudo-membrane. He also considers that the type of the disease may have changed, and become milder. Statistics on the results of intubation gathered from the reports of 166 operators have been collected by Dr. Brown[2] of New York. Out of 2368 cases from various parts of the world the percentage of recoveries was 27·3. For the account of this case we are indebted to Dr. James Bays, house physician.

F. B——, a girl aged two years, was admitted on Aug. 9th with membrane on both tonsils. On Aug. 12th symptoms of the diphtheritic membrane having affected the larynx were noticed, and paroxysms of suffocative dyspnœa occurred, rendering operative interference necessary and intubation was attempted. The gag was placed in position, the epiglottis drawn forward, and the tube was inserted in the upper part of the larynx. No sooner was this done than the child became livid and immediately ceased breathing. With the idea that the end of the tube had caught some of the membrane, and having pushed it before it had thus completely obliterated the lumen of the air passage, and that further attempts at pushing the tube home would only aggravate the condition, tracheotomy was immediately performed, and by the aid of artificial respiration the child speedily came round. Complete relief was not, however, given by the operation, and the child died thirty hours afterwards.

At the post-mortem examination the tonsils and the epiglottis were found to be covered with an exceedingly thick leathery membrane, which peeled off quite readily, while the whole of the inside of the larynx, the trachea, and the primary divisions of the bronchi were lined with a similar material, which left but little room for the passage of air.

Remarks by Dr. BAYS.—The thickness, amount, and easy separability of the membrane, in some parts it being found partially detached, are conditions which are extremely favourable to the production of a complete asphyxia. After the introduction of the intubation tube, if membrane should occlude the lower end, the violent expulsive efforts which this gives rise to are generally sufficient to produce the expulsion of the tube, and no great harm results; but in cases in which the tube is being introduced a certain amount of force is necessary to overcome the resistance of the vocal cords, and this is extremely likely, in cases in which the membrane is abundant, to cause an impaction in the larynx, and, together with the hindrance to respiration resulting from the presence of the gag in the mouth, is quite sufficient to account for the asphyxia. There can be no doubt that in many cases intubation is a very valuable operation, but it must be borne in mind that there are risks and disadvantages connected with it, and that in some cases it cannot supersede tracheotomy. In all cases of intended intubation the safeguard of having the instruments for tracheotomy ready at hand should never be neglected, and permission from the parents should be obtained not only for an intubation, but, if necessary, for a subsequent tracheotomy.

[1] Sajous, vol. iv., p. 6, 1890. [2] New York Med. Journal, March.

EDINBURGH ROYAL INFIRMARY.

A CASE OF BONE GRAFTING WITH DECALCIFIED BONE CHIPS; REMARKS.

(Under the care of Mr. A. G. MILLER.)

CASES illustrating the successful employment of bone grafts for the purpose of filling cavities such as that left after the operation in this case, or to replace bone which has been lost through accident or disease, are not very numerous in the surgical literature of this country. It is therefore of importance that instances of success following any method should be recorded, as cases constantly arise in practice where a good result thus obtained would be of the greatest service. The method of Professor Senn,[1] which was used by Mr. Miller, is said by the introducer to possess many advantages not found where decalcification has not been employed. He affirms that in the treatment of these bone cavities the specially prepared bone grafts are preferable to Schede's blood-clot; that they are not only aseptic, but strongly antiseptic. One of the most successful instances of bone grafting is that recorded by Dr. Macewen, who succeeded in restoring continuity of bone between the epiphyses of a humerus in a boy who had lost the diaphysis of that bone a year previously. In this case the grafts were taken from children in whom it was necessary to remove a wedge-shaped piece from the tibia for deformity, the result of rickets. Success in the employment of animal bone grafts has been also obtained by Poncet, Sherman, and others. We are indebted to Mr. D. A. Carruthers, house surgeon, for the report of this case.

R. I——, aged forty-four, a farmer, applied for admission complaining of pain in the right knee. Two years ago the patient fell and hurt his right knee; the pain was very severe for the two or three days immediately following the injury, but it then passed off. He was able to walk about as usual after this accident, but he was never able to fully straighten the leg or to kneel on that knee. The leg troubled him occasionally, but not much; when in pain he

[1] American Journal of the Medical Sciences, Sept. 1889.

tried various remedies without any benefit. About a month ago the knee became very much worse; he thinks this was due to the extra work he had in bringing the sheep from the hills. On consulting a doctor he was advised to rest the leg, and fly blisters were given him to apply to it. The knee became very much swollen and inflamed; leeches were applied, and the patient was thereby greatly relieved. He rested the leg for a month, and then, as it did not get better, he was advised to come to the Royal Infirmary for treatment, and was admitted on Dec. 24th, 1889. Patient has always been a strong, healthy man, excepting for this trouble. He is temperate in his habits, and has never had any venereal disease. His family history is very good, the only exception being one aunt, who had white swelling of the knee-joint.

On admission the man was in very good health with the exception of the knee. There was some swelling of the right knee-joint, especially on either side of the ligamentum patellæ. Patient complained of pain, which had lasted more or less for two years; the pain was referred to a spot outside and below the insertion of the ligamentum patellæ. Pressure on the place indicated caused great pain. The diagnosis of chronic inflammation of the bursa under the ligamentum patellæ, with commencing abscess in the head of the tibia, was made. The knee was blistered twice; a posterior splint was also applied. This did not do any good, so blistering was discontinued and Scott's dressing used instead. This reduced the general swelling, but did not have much effect on that under the ligamentum patellæ, which became more pronounced. Pain still continued and troubled him at night. The abscess seemed about to point outside the anterior tuberosity of the tibia, and it was therefore thought advisable to open it at once.

Jan. 21st, 1890.—Mr. Miller opened into the swelling first where it was most marked—viz., at the outer and lower edge of the patella. Nothing came out, but on squeezing a gelatinous substance protruded. He then introduced a director, and found that it passed across underneath the ligamentum patellæ, evidently into the bursa underneath that structure. He scraped the cavity thoroughly. The cavity was syringed, but nothing came out except on pressure, when some more jelly-like material appeared. Mr. Miller then cut down on the outer side of the anterior tuberosity of the tibia where there was the bulging, which had become more marked after the syringing out. Part of the lotion which had been injected came out, and more of the gelatinous material. The bone was bare and was scraped. On scraping it came away very easily, and an opening was made which passed upwards towards the joint, but did not go into it as far as could be made out, the material removed was simply granulation tissue without any pus or bony particles. There was a cavity left in the head of the tibia rather larger than a pigeon's egg; from the bottom of this cavity by dressing forceps a small separated piece of bone, looking like new bone, was removed. A drainage-tube was put into the opening and another into the wound above. The wound was dressed antiseptically and the leg put on a posterior splint. The patient complained greatly of pain in the afternoon, and a quarter of a grain of morphia was given to relieve it. The wound was dressed three days after operation, and the tube removed from the upper wound. The tube was still left in the lower wound, which communicated with the cavity in the tibia.

30th.—On dressing the upper wound it was found to have healed, but the lower wound was in much the same condition as before. As the wound was not tending to close up, it was thought advisable to stuff the cavity with decalcified bone. A piece of ox's rib was obtained, scraped, decalcified in a weak solution of hydrochloric acid, pressed in order to clean it, and then put in carbolic lotion (1 in 20) for forty-eight hours and cut in small pieces.

Feb. 18th.—Mr. Miller scraped and gouged the tibia at the wound in order to get free access into the cavity. The pieces of bone which he gouged away were kept in boracic lotion till later in the operation. He then stuffed the cavity with the decalcified bone shavings. As there was still a little room left he put in the pieces of bone which had been scraped away and kept in lotion. The cavity thus filled was about two inches in diameter. After the operation the cavity closed up very rapidly, and there was a very small external wound, but the probe could still go in about an inch, and some bare bone was felt. Mr. Miller removed several pieces of necrosed bone with dressing forceps on March 11th; the pieces were very small in size, and were evidently the portions of patient's own bone which had been returned. On two other occasions (April 10th and 23rd) while dressing the limb other small pieces were removed. At last a very small sinus was left, and, the limb being put in a Thomas' splint, the patient was sent home on May 12th, 1890.

Remarks by Mr. A. G. MILLER.—This case is of interest, I think, as showing, first, that closing of the large cavity in the tibia was facilitated by the process of stuffing it with decalcified bone chips as recommended by Professor Senn; second, that the decalcified bone was superior to fresh bone. The fresh bone not only was of no use, but actually hindered the closure of the wound. The cavity in the bone was very quickly filled with granulations, but the external wound did not show any tendency to close till the necrosed portions of fresh bone were all removed. I believe that the cavity and wound would have healed completely in a month, or perhaps even sooner, had the fresh bone not been put in. In June I heard from the patient's doctor, who said that the sinus closed soon after the patient went home. In the above case there was never a drop of pus from first to last, and after the operation the patient's temperature never rose above 100°F. The dressing employed was iodoform and wood wool wadding mostly. Every dressing was done under the spray.

Reviews and Notices of Books.

The Colours of Animals; their Meaning and Use especially considered in the case of Insects. By EDWARD BAGNALL POULTON, M.A., F.R.S. Vol. LXVIII. of the International Scientific Series. Pp. 360. London: Kegan Paul and Co.

THIS work is devoted to an exceedingly interesting subject, and one that has only of late years been shown to be of importance in the economy of nature. Isolated observations are indeed scattered here and there in the works of travellers, as, for example, in the well-known experiment of Sir J. Ross, who first showed in a decisive manner the influence of cold in inducing change of colour by keeping a Hudson's Bay lemming in his cabin, where considerable warmth was maintained. Here it retained its summer coat through the winter, but when placed in a cage on Feb. 1st, and exposed on deck for one night only to a temperature of 30° below zero, the fur on the cheeks and a patch on each shoulder had become perfectly white, and, the exposure being continued, the whiteness gradually extended over the fur till at the close of a week it was entirely white, with the exception of a dark band across the shoulders and down the back. Further examination showed that the existing dark hairs became white at the tips, and that the whitening hairs grew suddenly and rapidly. The mode in which colours exert their influence is very various. Sometimes they appear to be purely protective, as in the winter change of colour in the fur of hares and of the animals just alluded to, and in many birds; in others, they act as warners of danger, as in the colouring of certain snakes; whilst in others they seem to be associated with sexual allurement. The physical cause of animal colours differs in different instances. In the majority of cases special pigments are present, but in many instances the appearance of colour is due to the phenomena of interference consequent on the presence of thin films. Mr. Poulton remarks that the brilliant metallic appearance of many chrysalides, especially in the genus Vanessa, is caused by a large number of films of liquid enclosed between the laminæ of the dense outer layers. If the pupa be kept in spirit or in water the colour remains, but disappears directly it is dry, although it can be renewed any number of times by wetting. This may even occur in a living animal, as appears from an observation made by Dr. Nickerl, who found that a brilliantly golden beetle (*Carabus auronitens*) lost all its lustre after hibernating in captivity, but entirely regained it after drinking some water.

Mr. Poulton starts with the affirmation that colour is not

necessarily of any value to an organism, since we find colour in parts that are excluded from light, as in blood, muscle, fat, and the air-bladder of certain fishes, in all which cases it appears to be the incidental result of chemical or physical structure. In plants, chlorophyll with its green colour seems from its constancy and wide distribution to be of great functional importance, and Dr. Hickson is of opinion that amongst corals the most widely distributed colours will eventually be proved to be allied to chlorophyll, and to have very similar uses. Mr. Poulton chiefly draws upon the lepidoptera for examples of protective coloration. In one case a lichen-feeding Geometer (*Cleora lichenaria*) is wonderfully protected, the larva often twisting itself amongst the irregularities of the lichen, so that it is completely invisible. In another the chrysalis of the Purple Emperor, which is of a green colour and feeds upon the sallow, gives an impression of leaf-like flatness, and thus effects concealment by presenting a lighter shade of colour at the sides, so that the effect of roundness, by which we judge of prominence, is lost. The effect of surrounding colours on caterpillars and chrysalides in causing change of colour in the perfect insect has been the subject of some very interesting experiments by Mr. Poulton. In the case of the Vanessa urticæ green surroundings to the caterpillars were first employed without marked effect; black was then tried, with the result that the pupæ were extremely dark; but with white surroundings the results were surprising, an immense development of golden spots occurring, so that in many cases the whole surface of the pupæ glittered with an apparent metallic lustre. Careful investigation seems to prove that the stage at which the animal is most sensitive to the colour of its surroundings is the few hours during which the caterpillar rests motionless on the surface upon which it will pupate. The author's experiments on the influence of partial exposure of the body to different colours in the surroundings are very curious and instructive. A very interesting chapter is devoted to Mimicry—a characteristic which, though most common in insects, is yet seen in higher animals. We can confidently recommend the book, not only on account of the value of the facts it contains, but for the admirable manner in which they are stated.

Die Frage des Ueberganges gutartiger Kehlkopfgeschwülste in bösartige, speciell nach intralaryngealen Operationen. Ergebnisse einer Sammelforschung unter den Laryngologen der Welt, Veranstaltet von Internationalen Centralblatt für Laryngologie, &c., und redigirt von Dr. FELIX SEMON, F.R.C.P.Lond. Berlin: Verlag von August-Hirschwald. 1889.

DR. SEMON is to be congratulated on his monograph, a collective investigation among laryngologists throughout the world on the question whether laryngeal growths of a benign nature ever become malignant, and if so, whether this change occurs with special frequency after intra-laryngeal operations undertaken for the removal of such growths. Before going into any detail of the method, nature, or extent of this inquiry, we may at once state that the conclusion arrived at is a distinct "no"; such transformation does not occur.

Dr. Semon has confined his inquiry to laryngeal new growths especially after intra-laryngeal operations undertaken for their removal. We incline, however, to think the question has a wider application, and that the real issue is whether traumatism alone can give rise to malignant new growths. For what obtains in laryngeal growths must surely apply to growths in any part of the body. What then is the present position of this question? what is the relation of malignant new growths to traumatism? It must be conceded that many careful observers believe that malignant new growths may and frequently do arise as the result of an injury. On the other hand, there is a larger number of equally good observers who believe that when malignant tumours *follow* an injury the blow is merely an exciting cause acting on tissues already possessing a tendency to develop this form of new growth; and it must be admitted that the total number of cases in which such a sequence of events can be traced is out of all proportion small to the vast number of cases in which this sequence of events does not occur: hence we are driven to the conclusion that when it does occur some unusual condition of tissue exists, which is the real and essential element in the transformation. Nor must we fail to bear in mind the imperfect state of our knowledge of what is and what is not malignant during the earliest stages of new growth, and the possible sources of error which this want of knowledge implies. By restricting the inquiry to the larynx, and in further confining it, as the author has done, to the effects of intra-laryngeal operations upon new growths in this region, the issue truly is narrowed and localised, and perhaps on that account more reliable, and less open to fallacy. The collected material embraces 10,747 cases of benign new growths, observed by 107 laryngologists during the period 1862–88. Of these, 2531 were cases not operated upon, of which 12 are reported to have undergone malignant degeneration spontaneously; and 8216 cases in which intra-laryngeal operations had been performed, of which 33 cases are reported to have undergone malignant degeneration subsequently to the operation. Of the first series there is 1 case in every 211 cases; in the second series, 1 case in every 249 cases. This answer is precise, and, as we have already stated, it is in conformity with the teachings of experience as they apply to the question in its wider sense. Even had the reply been different, it would still be an open question whether such transformation ought rightly to be attributed to the surgical operation, rather than to some one of the many other forms of irritation to which a diseased larynx is peculiarly liable. The result of the careful investigation Dr. Semon has made is of general pathological interest, and will be hailed with satisfaction by a large circle of readers.

OUR LIBRARY TABLE.

A Historical Sketch of Surgery: Ancient, Mediæval, and Modern. By B. A. WATSON, A.M., M.D., Surgeon to Jersey City and Christ Hospitals. Reprinted from the *New York Medical Journal* for August, 1890. — Dr. Watson is favourably known on both sides of the Atlantic for his studies in medical history, and the "Historical Sketch of Surgery" before us is not unworthy of his reputation. It presents, within the compass of some forty-seven pages, a vivid survey of that section of the healing art which is at once the earliest in origin and the highest in development; and it will be read with pleasure by surgeons who are already familiar with the facts, and with advantage by those who are not. Here and there, however, his history is not corrected up to date. He assigns to Celsus, for instance, a much earlier "floruit" than is now given him by scholars; and, again, in his account of Roman surgery he might have found room for the fact that when the famine decimated Rome in 46 B.C., and a general expulsion of strangers had to be decreed, Julius Cæsar expressly excluded the practitioners of the healing art from the inhospitable enactment; and, according to Suetonius, gave them every encouragement to remain as citizens. Half a century later Augustus granted them exemption from taxes and other civic burdens in gratitude for the services of his body physician, Antonius Musa.

Hygiene and Public Health. By LOUIS C. PARKES, M.D., D.P.H. Lond. Univ. Second Edition. London: H. K. Lewis. 1890.—Dr. Parkes can desire no better testimony

to the value in which his treatise on Hygiene and Public Health is held than the fact that within six months of the issue of the first edition he was called upon to prepare and to issue a second one. The work has been compiled with a view of helping those members of the medical profession who are preparing for public health diplomas in our universities and medical corporations, and of assisting medical officers of health in the performance of their current duties. Care has been taken in issuing the second edition to correct a few trivial errors, and to bring the work up to current date, especially in some of the more scientific branches of study which are involved in public health work, and which are constantly undergoing change, owing to the rapid increase of our knowledge in these directions. We feel confident that the work will continue usefully to serve the purposes for which it has been prepared.

Therapeutisches Lexikon für praktische Aerzte. By Dr. ANTON BUM. Vienna: Urban und Schwarzenberg.—The Editor of the *Wiener Medicinische Presse*, Dr. Anton Bum, with the assistance of several specialists, is publishing this Dictionary of Therapeutics in parts. Nearly 500 pages have already appeared, which brings the work down to the commencement of the letter M, and, considering the regularity with which the parts are appearing, it is probable that the work will be finished early next year. The object aimed at is to afford practitioners information as to the newest and best methods of treating diseases of all kinds. It differs from such works as Quain and Fowler in omitting all reference, except where absolutely necessary for treatment, to etiology, morbid anatomy, and diagnosis. There are a good many illustrations of surgical operations, bandages, and instruments. Constant reference is made to electro-therapeutics, and under the head of "Galvanisation" there is a complete dictionary of the galvanic treatment of an immense number of diseased conditions. The work is admirably got up, and will be most valuable to practitioners who wish to keep abreast with modern methods employed in Germany and elsewhere.

The Asclepiad. Third Quarter. 1890. No. 27, vol. vii. By BENJAMIN WARD RICHARDSON, M.D., F.R.S. London: Longmans, Green, and Co.—Few are more competent to criticise the theory and practice of artificial respiration than the accomplished editor of this interesting quarterly. He makes that topic the subject of the opening article in the number before us, and, it is needless to say, discusses it with precision and clearness. He sums up as follows: "*Theoretically*, asphyxia is the state of suspended animation in which artificial respiration may be expected to be of service. Under apnœa, or syncope of the lesser circulation, its value is problematical. . . . *Practically*, artificial respiration should always be preceded by means for clearing the trachea and bronchial passages of all obstructions, solid or fluid. It cannot be commenced too early after natural respiration has ceased. It should always be carried on, when it is possible, in a warm and moderately dry air." He adds that the best manual mode is probably that of Dr. Andrew H. Smith, and the best mode of insufflation, that by means of nostril tube and bellows. The next article in the number is entitled "Lessons from the Fasting Mania," in which the author records a case known to him of voluntary starvation. He discusses the sustaining power of water, the treatment of the famine-stricken, and deduces from the "fasting mania" certain physiological lessons, such as the maintenance of body temperature, the slight affection of respiration, and the keeping up of muscular power during a fast of forty days, all facts contrary to current physiological doctrine. Even more remarkable is, he thinks, the mental endurance shown by these professional "fasters," and the natural sleep they enjoyed. "Joseph Black, M.D., and the School of Chemical Medicine," is the subject of medical biography dealt with in this issue, which contains also interesting facts on chloral poisoning, a reproduction of the author's writings on amyl nitrite, and a trenchant attack on "capital murder" by electricity.

Sutherland's Directory of Justices in Lunacy for 1890-91. London: Bale & Sons.—In consequence of the Lunacy Act of 1890 (53 Vict. c. 5) requiring reception orders to be signed by a judge of the county court, or magistrate, or justice of the peace specially appointed, it has occurred to Dr. Henry Sutherland, physician to and proprietor of Newlands House and Otto House Private Lunatic Asylum, that a list of justices so appointed might form a manual of reference for medical men, members of the legal profession, and the public in general, and might assist them in obtaining power to prevent a lunatic injuring himself or others in cases of necessity. Thus in the case of non-pauper lunatics, reference has only to be made to the town or county in which the patient may be in order to find the names of the justices who will render assistance. We think the book is likely to satisfy the object it has in view, and save much time to medical men who have lunacy cases coming under their observation. Future editions will enable the editor to supplement the volume with information which has not yet reached him.

Vorlesungen über den Bau der Nervösen Centralorgane. Von Dr. LUDWIG EDINGER. Zweite umgearbeitete Auflage. Leipzig: F. C. W. Vogel. 1889.—In the course of twelve lectures, Dr. Edinger, of Frankfort-on-the-Main, has contrived to give a lucid and by no means over-technical description of an admittedly difficult subject. The lapse of four years since the publication of the first edition has enabled the author to make considerable additions to and revisions in the text, for every year sees fresh contributions to the histology of the brain. The book, then, is a repertory of facts, a strictly anatomical description of the brain and spinal cord; and its chief merit lies in the clearness with which the subject is dealt with, assisted by an abundance of original illustrations. The value of these latter can be best appreciated by the perusal of the closing pages (156 *et seq.*) of the book, where the author sums up the known facts concerning the directions taken by the pyramidal tract and the tracts of each of the cerebral nerves within the brain. The course taken by these various sets of fibres can be plainly seen in the figures. In fact, within small compass the reader has not only a text-book, but a descriptive atlas of the intimate structure of the central nervous system.

Leprosy as a Cause of Blindness. By C. FRED. POLLOCK, M.D. London: J. & A. Churchill. 1889.—This monograph is based on the author's observation of a series of cases in the leper hospitals of Norway, which he visited in the summer of 1888. Of 463 patients, 41 were blind, and it is these that form the basis of Dr. Pollock's remarks. The conditions include ectropion, inflammation of the eyelids and ulceration, infiltration of the cornea or tuberous growth at the corneo-scleral junction, ulceration of cornea, leucoma, staphyloma, and a few cases of more profound disorganisation of the globe. These eye affections are usually symmetrical, and in the majority the process starts from the corneo-scleral junction, invading the deeper layers of the cornea or the anterior chamber, or attacking the iris and ciliary body. The work is a strictly scientific study of one feature of leprosy.

The Drink Question; its Social and Medical Aspects. By KATE MITCHELL, L.K.Q.C.P.I. &c. London: Swan Sonnenschein and Co.; and British Women's Temperance Association, Memorial Hall, Farringdon-street.—No reader of this work will have any doubt as to the zeal for abstinence which has inspired its publication. The zeal in question, indeed, is not without knowledge, but the

proof here adduced of mischief wrought by alcohol is by no means equal to the demand made upon it in support of a prohibitory liquor law. Some useful information is afforded respecting the prevalence of drinking in different European countries, and the measures employed for its control. The chemistry of alcohol and its behaviour in the body are treated, on the whole, with a fair degree of care and intelligence, though the views of the writer on physiology and pathology occasionally strike one as being more original than accurate. Thus we learn that the carbonic acid in the blood is carried by the red corpuscles, that nerve roots convey sensation and motion to nerves, that when gout spreads from joints to internal organs death is imminent, &c. The ordinary letterpress likewise will, in some passages, bear careful revision. Some practical remarks on temperance from an economic standpoint are worth reading. But the book as a whole, notwithstanding a certain substratum of scientific evidence, is to be regarded rather as a popular and somewhat extreme presentation of total abstinence views than as a dispassionate study of the alcohol question.

What Cheer, O? or the Story of the Mission to Deep-sea Fishermen. By ALEXANDER GORDON. London: James Nisbet and Co. 1890.—Under this encouraging title we are introduced to a brief but very readable account of the past, present, and probable future of the mission to deep-sea fishermen. The fisher of less than twenty years ago—a nearly forgotten man by those on shore, and therefore a bad citizen—and his crafty foe, the "coper," are shown as they then existed. The history of a genuine effort of humanity which has caused the disappearance of the latter, and has raised his former dupe to the level of intelligent, moral, and useful manhood and to the fellowship of his countrymen, is detailed with faithful care. In this account of the Mission's work all matters of essential interest relating to that work may be studied through the medium of a light and attractive literary style. The needs, the dangers, the deservings of the hardy east-coast fishermen are emphasised by descriptions of the life on board the smacks, and by yarns of the grim storm-battles fought in former years. Medical readers will peruse with special interest the details given of the floating hospital and the working of the ambulance system. Men of business will find matter for approval in a statement of shrewd and honest financial management, and all who care to take part in an enterprise worthy of their best efforts will in these pages discover their opportunity. Let us not forget to mention that the illustrations, by well-known artists, are unusually good.

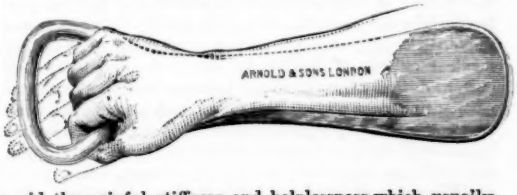
Practical Manual of Diseases of Women. By H. MACNAUGHTON JONES, M.D. Fourth Edition. London: Churchill. 1890.—The fourth edition is enlarged, and contains new chapters on electro-therapeutics, massage, ovarian tumours, and ovariotomy.

The Cell Theory Past and Present. Being the Inaugural Address delivered to the Scottish Microscopical Society by Sir WM. TURNER, F.R.S. London: Williams and Norgate. 1890.—In this pamphlet the reader will find a clear and excellent account of the history of the cell theory.

New Invention.

A NEW SPLINT FOR COLLES' FRACTURE OF THE FOREARM.

AFTER the impaction of the fractured end of the radius has been reduced, this splint, previously suitably padded, should be applied along the flexor side of the forearm. The patient may then be directed to grasp in his hand the transverse portion of the perforated end of the splint. A plain wooden splint, padded, should now be applied on the extensor side, reaching from the back of the wrist to about two-thirds up the forearm. The chief object of the splint is to allow full freedom to the hand and fingers, so as to



avoid the painful stiffness and helplessness which usually follow when fixed up in other various form of splints, and all of which necessitate the hand and fingers being confined in an abnormal position by a bandage. It is made by Messrs. Arnold and Sons, London.

J. GALLAGHER,
House Surgeon, Jamsetjee Jejeebhoy Hospital, Bombay.

REGINA *v.* BENNETT.

To the Editors of THE LANCET.

SIRS,—This case is an interesting one to the medical profession as illustrating the extreme difficulty of getting a knowledge of simple medical facts into the minds of a judge and jury.

Matthew Bennett was a soldier on sentry duty at Wellington Barracks, carrying, as is usual, an unloaded rifle. Suddenly he crouched down into a kneeling position, loaded and discharged his rifle, striking a passer-by whom he had never before seen, and began to reload. He was at once arrested, and was found to be pale, dazed, and shaky, and when spoken to he made no reply. He was taken to the guard-room, and subsequently asked what he was under arrest for, and denied all recollection of the occurrence. On inquiry it was found that he had for long been subject to attacks of giddiness.

Upon these facts the medical witness for the prosecution is asked whether the case may not be one of epileptic vertigo, and whether the act of loading and firing may not have been one of the automatic acts that so often occur in petit mal, and he gives his opinion that such an explanation is extremely probable. When counsel for the defence advances this hypothesis, and endeavours to support it by medical evidence, the reception that it meets with is somewhat discouraging. The notion that a man could suddenly become unconscious, and, while unconscious, perform quasi-rational acts of which he afterwards retains no recollection, is regarded by the judge and jury as an extravagant burlesque which is not entitled to serious consideration. The judge regards the medical witness with amused contempt, as a weak-minded enthusiast who is carried into monstrous absurdities by the domination of a fixed idea. The jury laugh audibly at the hypothesis, and counsel for the prosecution suggests by his manner that it is for just such people as the witness before him that Broadmoor was established.

The legal interest of the case lies in the fact that the judge left to the jury the question of the prisoner's sanity, of which no witness had expressed a doubt. It seems that in law a person who is in an attack of petit mal, and whose consciousness is for the time being annulled, is regarded as insane, and is liable to be committed to detention during the Queen's pleasure if he does a criminal act while unconscious.

It would seem that the defence must have had some influence on the jury, for the prisoner, who was committed for shooting with intent to kill, was found guilty of a common assault only. The jury, upon being asked their opinion as to the prisoner's state of mind, hesitated for some time, and then said that they "supposed the man had fired from a sudden impulse."

Upon the often-mooted question of medical assessors in such cases I express no opinion; but I feel sure that I am within the mark when I say that no jury of medical men could be got together that would fail to find that Matthew Bennett's crime was committed during an attack of petit mal.

I am, Sirs, yours truly,

Catford, September, 1890. CHARLES MERCIER, M.B.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 20, 1890.

THE acclimatisation of the European in the tropics and the influence of climate and of the tropical infectious diseases on Europeans are subjects which have special interest for England, the largest colonising country. These subjects have occupied the attention of the Home and Colonial Government for many years, and in the reports of the India and Colonial Offices most valuable information is given on the comparative morbidity and mortality of English and native troops, and on other points bearing on this subject. On the basis of these and similar reports published by the Governments of other countries, Professor STOKVIS has been able to formulate some general conclusions, which, in a highly interesting address, he laid before the members of the International Medical Congress at Berlin.

The two chief enemies with which the European living in the tropics has to contend are the altered thermic conditions and the endemic infectious diseases. The thermic conditions include not only the higher temperature, but also the other meteorological factors which influence the human organism by causing disturbances of its temperature regulating mechanism. Now, as regards the peculiar thermic conditions, we know from the observations of DAVY, BROWN-SÉQUARD, MAUREL, and JOUSSET that the individual members of all the tropical races, whether Hindus, Anamites, Senegambians, Malayans, or the like, manifest certain physiological differences from Europeans and from the inhabitants of the temperate zones. The number of respirations is increased, the vital capacity of the lung is diminished, the thorax is of less circumference, the abdominal respiration less marked, the pulse is increased in frequency, its tension is diminished, the abdominal organs are richer in blood, there is increased secretion of sweat and diminished secretion of urine, the body temperature is from 0·5° to 0·6° centigrade higher, and the body weight is diminished in proportion to the length of the body. As regards the animal functions, a diminution of the tactile sense and of the special senses has been observed. These races are inferior to Europeans not only in mental power, but also in muscular strength; whilst in sexual power they excel their European brethren. These physiological variations are, however, not due to any peculiarities inherent in the race, but depend on the higher temperature in which these races live, and the same variations are noticed in people living in the moderate zones during the hot summer weather. When the European is put into a tropical climate, he, after a period of transition, acquires the same physiological alterations as the natives. He becomes, according to STOKVIS, a permanent summer being ("*Sommermann*"), as shown by the observations of DAVY, JOUSSET, RATTREY, FÉRIES, and others. The tissue metabolism becomes diminished, the urine becomes more concentrated, is rich in inorganic salts, and poor in urea. No alteration takes place in the condition of the blood, which, according to exact observations made by MARESTANG, shows a normal amount of hæmoglobin and the normal quantity of blood-corpuscles even after prolonged resistance. Now, as the temperature-regulating centres of the European easily adapt themselves to varying changes of the surrounding temperature we may, *a priori*, expect that he will offer greater resistance to the vicissitudes of the atmospheric changes; and that this is so is shown by the fact that in all colonies the European soldiers suffer much less from diseases of the respiratory organs (such as bronchitis and pneumonia) than the native troops. Sunstroke appears to affect the European more than the native, but the mortality from this source is very small, and other factors, such as the difference in clothing &c., are to be taken into consideration.

On the other hand, it is evident that the physiological alterations dependent on the higher temperature predispose the European to certain affections, especially those of the chylopoietic system and of the skin, just as with us disturbances of the digestive tracts, such as gastric catarrh, diarrhœa, and affections of the skin, are more prevalent in summer than in winter. We can thus understand that hepatitis is more common amongst Europeans living in the tropics than amongst the natives.

In India the mortality of European soldiers from hepatitis during the last twenty years was from 1 to 2 per 1000 per year, whilst of the native soldiers the proportion was from 0·14 to 0·4 per 1000. The mode of life, especially the abuse of alcoholic drinks, is here again an important item, and with improved hygienic conditions and a more rational dietary the mortality has largely decreased during the last fifty years. For the European to adapt himself to the altered conditions of the tropics, it is essential that he should avoid all excesses, and all things which tend to weaken his resisting powers, and that he should carefully observe all hygienic rules. The reports of the English Royal Commissions show this in a striking manner. Thus, from 1800 to 1850 the yearly mortality of the European soldier in India was 84·6 per 1000; from 1830 to 1856 it fell to 57·7 per 1000; from 1869 to 1878 there was a further decrease to 19·34 per 1000; and from 1879 to 1887 it reached the low figure of 16·27.

Considering now the effect of infectious diseases on Europeans living in the tropics, we have in the first place malaria, which has always been considered a scourge to the Europeans, whilst the natives, especially the black races, were supposed to have a kind of immunity from this disease. The statistics, however, which STOKVIS might have quoted tell a very different tale. In India the Hindu and Sepoy show the same rate of mortality from malaria as the English soldier, whilst the morbidity amongst the native troops is greater than amongst their European comrades. It is different with typhoid fever; this is more common amongst the European than the native soldiers.

As regards yellow fever, it is well known that it affects chiefly those Europeans who have only resided a short time in the tropics. It is therefore not the peculiarity of race which must be made responsible for the large mortality amongst the Europeans, but rather the want of resisting vital power of those who are not yet acclimatised. Dysentery and cholera, which at one time caused such great ravages amongst the Europeans, have been success-

fully combated by the adoption of sanitary measures; in India the mortality from cholera amongst European soldiers has now fallen to 3 per 1000, whilst in 1868 it was 18·6 per 1000. On the other hand, beri-beri, which was thought to attack chiefly the natives, appears, according to more recent statistics, to find many of its victims amongst the Europeans.

The conclusion, then, at which STOKVIS arrives is, that the power of resistance of the healthy adult European living in the tropics quite equals, and in some measure is even superior to, the vital power of the native races. This opinion was expressed by JAMES LIND more than a hundred years ago, and is now held by most English and French authorities—as HORNER, Sir JOSEPH FAYRER, DUNCAN, JOUSSET, DUTROULAN, CORRE, and others. On the other hand, it seems that there are certain peculiarities of the race which have been gradually acquired by inheritance from generation to generation, and that the longer the European resides in the tropics the more likely is he to lose his superior resisting powers; and it is possible that the European Creole is, both bodily and mentally, inferior to the European.

THE grievances of seamen, but more especially of firemen, which we describe in another column, cannot fail to awaken the interest and sympathy of all who realise how much England owes to her seafaring population. Our cheap food-supply, on which public health depends to so large an extent, is brought us from over the sea, and but for our exports and imports the great wealth, the commerce, and the industry of England would cease to exist. Yet the men on whom so much depends, who man the ships, and without whom navigation would be absolutely impossible, are allowed to live in a manner which ruins their health and brings them prematurely to the grave. It might have been thought that the perils of the deep were alone sufficient to be encountered. These dangers, however, assume insignificant proportions when compared with the more insidious yet certain decay of vitality produced by the unhealthy character of the fireman's work and the seaman's berth. Seventy-two cubic feet of space in the forecastle is allotted to each man. Sailors are allowed to introduce into this limited space monkeys, parrots, and other animals, which they bring home from Africa to sell in England. The Board of Trade suggests that the ship's surgeon should report whether the ventilation on board ship was sufficient, but Dr. LEET of Liverpool publicly states that when he acted in that capacity he received written instructions from his employers not to report on the condition of ventilation. Our Commissioners have visited the sailors' and firemen's quarters on board several ships, and have found that no reliable means of ventilation were provided. In this connexion, it is very important to note that at the examination of mercantile marine officers no questions are asked as to the means which can be employed to ventilate a ship. In a word, the all-important question of ventilation has not been seriously studied.

The sailor, fortunately, finds in the pureness of the air on deck some compensation for the foulness of the ill-ventilated and overcrowded berth in which he sleeps. Not so with regard to the fireman. He has to make great physical exertions in front of the furnace. He is supposed to work only four hours in the twelve, but this generally suffices to produce illness among some of the crew, and for every man who is laid up two men must work six hours instead of four, thus extending the two watches to twelve hours out of the twenty-four. The strain, especially in hot climates, is unbearable. Then the shock of leaving the fierce heat of the stokehole and facing, with clothes still dripping with perspiration, the cold wind on the deck is so great that the most serious consequences ensue. Rheumatic fever, followed by cardiac complications, bring the firemen early to the grave. The dirt in their cabins, the general discomfort of their existence, described by our commissioners, still further aggravate their situation. Nor is there the consolation that for this dangerous and life-exhausting work the men receive good pay. The firemen who earn the highest, that is, the trades union rate of pay, get £5 per month on the Western Ocean, and £4 10s. on the Southern Ocean; but, as they are discharged the moment the ship reaches port, they do not work for more than about three weeks in the month. This reduces the income of the best paid men to about £45 a year.

Fortunately, science and engineering have not said their last word on the subject. On the contrary, comparatively little has been done to mitigate the inconveniences and the dangers attendant on the modern methods of steam navigation. Ship building and ship management seem to have been conducted solely for the one purpose of ensuring the commercial success of the enterprise taken in hand. Little or no thought has been given to the risk of life attendant on such ventures. In this, as in so many other cases, it is the dramatic side only of the question which has struck the public imagination and influenced the legislator. Laws have been passed to lessen the danger of shipwreck. The picturesque horror of a shipwreck appeals to the feelings of all, and our coasts are studded with lifeboats. But good ventilation, better sanitary precautions, and improved food on board would save a far greater number of lives than the most heroic devotion on the part of the brave men who man the lifeboats. Such measures, though less romantic, would be much more useful in reducing the perils of a seafaring life. As indicated in the report we publish, steamships should carry a few supplementary hands as firemen to take the place of those who fall ill in the execution of their arduous and dangerous duties. These dangers could and should be materially reduced by the construction of ships in such a manner as to favour the ventilation of the stokehole by the application of artificial methods, fans, &c., and by providing for the firemen a place where they could wash and change their clothes without incurring the risk of chill due to crossing the deck. Hundreds of valuable lives might thus be saved, and this without necessitating any very great outlay or giving rise to any serious complication in the working of the ship.

There are many other grievances to which our Commissioners have not yet alluded. The dependent position of ship's surgeons, who, being at the mercy of the captain and the ship-owner dare not denounce evils they would gladly see removed, is a matter in which public health and the

interests of the profession are deeply concerned. There is also much to be said as to the nature of the food provided to ships' crews, and the manner in which these crews are recruited, sometimes among the most unsteady and unreliable sections of the seafaring population. So much depends on the efficiency, in every point of view, of our mercantile navy that we shall rely with confidence on the support of every enlightened patriot in our efforts to secure better sanitation at sea.

WE regret to find that there are still substantial reasons for the many complaints which reach us from the banks of the Blackwater, known as the County river, on account of its being the boundary between Surrey and Hampshire, and lower down between Berkshire and Hampshire. Since we called attention to the state of this river in consequence of a letter from a correspondent (Oct. 12th, 1889), it appears that a great stir has been made, and some unpleasant facts recognised; but although the death-rates from diphtheria and diarrhœa have not been so high as they were in 1888, still during a recent visit we found them disinfecting at Blackwater after diphtheria, and the floods occasioned by the overgrowth of weeds at and above the three-arched bridge in the middle of the village of Blackwater were being loudly complained of. With regard to the deaths from diphtheria, five were reported in the first quarter of last year (1889) in the Farnham district, four of which occurred in the parish of Frimley; in the second quarter one death from diphtheria was registered in Frimley and two in Farnham; in the third quarter one death from diphtheria took place in Frimley and two in Farnham, whilst in Frimley fifteen fatal deaths from diarrhœa were recorded; in the fourth quarter two deaths from diphtheria were registered in the parish of Aldershot. In the Hartley Wintney district cases of death from diphtheria were recorded in each of the first three quarters of the same year. From these facts and the recent one referred to above it is evident that diphtheria still lingers in the valley of the Blackwater. During the first quarter of the present year there were two deaths from diphtheria recorded in Farnham, and one in Frimley in the second quarter. So that from the date of our article last year up to midsummer the valley of the Blackwater had not been free from fatal forms of this disease.

The next question is what has been done since last October? From a personal inspection of the river one would reply, nothing; but on inquiry it would be found that the sanitary authorities ordered the river to be cleared of its weeds. This was undertaken by a firm, and a large sum paid for taking off the "tops of the weeds," and laying them on the banks, their roots and the foul mud in which they grow being left to still obstruct the water-flow and pollute the river. The result is that the "weed tops" of this summer's growth well define the course of the river, whether viewed from the railway carriage or the heights of the Bagshot sands at Farnborough. This clearing of the weed tops was done at a wrong time of the year, when the stream was full; this, however, is a matter which chiefly concerns the ratepayers. Moreover, so long as the refuse from Aldershot is allowed to flow into the Blackwater, all that may be done below will not keep the river free from pollution and from being a source of danger.

The two great indications are—(1) to prohibit sewage, whether from Aldershot or any other place, from escaping into the watercourse; and (2) to keep the bed of the river free from obstruction. Where the river passes through Blackwater it is spanned by a three-arched bridge, above and below which the river is entirely covered with weeds. Again, just above this spot is a wire fencing to prevent cattle from the fields straying along the river. These wires are festooned with dead weeds in addition to the living ones which choke up the bed between the banks. After the great rain of July 17th last all the fields adjacent to the river were flooded, and when the waters subsided the *bouquet* from the fields was an element not to be forgotten. Mr. G. J. SYMONS, F.R.S., has recorded a mean rainfall for Surrey of 2 10 inches in the twenty-four hours July 17th and 18th. We were informed, however, that floods are frequent and that the Ordnance maps contain notes as to the liability to floods of certain parts of the Blackwater valley. The three-arched bridge above referred to has an inscription on the keystone of the centre arch, to the effect that the bridge was built during the years 1805–6, and that its cost and maintenance are defrayed by the three counties in which it stands in the following proportions—Surrey paying £46, Hants £28, and Berks £26 in every £100. Do the members of the sanitary authorities in which this bridge stands ever give the polluted water and the obstructing weeds a thought? Is it because the bridge belongs to three counties that what is three counties' business is no county's business? The waste land above the bridge, by the side of the old ford, should be enclosed, and no longer allowed to be a nuisance from the heterogeneous deposits that are made there. The lakes at the Royal Military College should not be allowed to be emptied into the watercourses without the sanction of some duly qualified medical officer of health, and the whole river should be surveyed and reported upon by someone competent to decide what had better be done at once, not only to purify it, but to keep it pure for the future.

IN a report on Vaccination in Burma, Dr. D. SINCLAIR, the Sanitary Commissioner, gives an account of the progress which vaccination is making in Upper and in Lower Burma, and both he and the Chief Commissioner more than once draw attention to the zealous exertions of Dr. T. F. PEDLEY in carrying out the work. Formerly, inoculation as a prophylactic against small-pox was very common in Burma, and one of the greatest difficulties to be contended with at the present time is the resistance offered by the sayas, who act as inoculators, to a proceeding which is gradually depriving them of their living, whereas inoculation, by occasionally inducing local epidemics, tended to induce the natives to recur to the only prophylactic heretofore known to them. But even this difficulty is being gradually overcome in several ways. Thus, Dr. SINCLAIR quotes an interesting story furnished by the Civil Surgeon of Sandoway. In the little village of Khramaung, some persons who had been vaccinated, but who had only a limited faith in the efficacy of the operation as a protection, sent

for the sayas to inoculate them. They were inoculated after the vaccination, but without result, the inoculation being in each case repeated three or four times. This was a test case, it appealed to the understanding of the villagers, ruined the reputation of the sayas, and induced the headmen for a considerable distance round Sandoway to make earnest appeals to the civil surgeon to send vaccinators to their villages. In the Prome district the mortality from small-pox amongst the inoculated reached 8 per cent., and in view of this the Burmese officials took an active part in discouraging the practice. The sayas, finding that their occupation was thus drifting away from them, applied for permission to vaccinate, and it is stated that, after instruction, a number of them were sufficiently favourably reported on by the civil surgeon to be appointed as vaccinators. In these various ways the practice of vaccination is steadily increasing. For the year 1889-90 the number of vaccinations in Lower Burma were 120,552, as contrasted with 92,914 during the preceding year, and the result in Upper Burma has been similarly satisfactory.

There are, however, points referred to in the report which show that matters are not yet altogether on a satisfactory footing. Thus, although the amount of success attained in operations performed is stated to be improving, yet in one district, including Rangoon, which had the advantage of Dr. PEDLEY'S services, amongst others, the percentage of successful primary vaccinations was only 86·1; a percentage which contrasts somewhat unfavourably with our own official results, and which probably implies a corresponding amount of partial or insertion failure. It is not clear to what this is precisely due; but this, and even worse, may possibly be brought about by the use of the sayas as vaccinators. Then there is the question of lymph. We are distinctly told that arm-to-arm vaccination was discontinued because bovine lymph was plentiful; but, unfortunately, the right alternative, in so far as insertion success is concerned—namely, calf-to-arm vaccination—has not been adopted, and this, although it is admitted that calf lymph readily loses its specific powers, especially in the hot weather, and, indeed, that its distribution to remote districts is in consequence impracticable. It is referred to as being stored in tubes, a practice which is hardly contemplated even in our climate, and this because it does not, thus preserved, keep so well as on points. A table prepared by Dr. SINCLAIR, showing the amount of success and failure, according to the length of time for which the lymph has been stored, points to a very large amount of non-success even after the lapse of a few days; and it is quite certain that a system based on the distribution of this lymph, according to the present practice, is hardly calculated to ensure the confidence which should follow on an officially organised practice. Indeed, Surgeon-Major THOMAS is reported to have proposed that an inoculated calf should be sent once a month to the principal towns in the district from which he reports, and in this way he somewhat anticipates a method that may come to be proposed even in this country if the Legislature should decide to favour the increasing demand for calf lymph as opposed to that which has been humanised. But hitherto the basis of our English system of public vaccination has been the use of fresh lymph, either from arm-to-arm or from calf-to-arm; and it is this practice that has given the success which Dr. CORY has been enabled to report. We would here recall what his experience has been. Assisted by two other operators, 7048 persons were vaccinated during the last year reported on at the London Animal Vaccine Station. All but twenty succeeded at the first attempt—that is, less than 0·3 per cent.,—and in no case was a third attempt at vaccination requisite. All the vaccinations were performed in five places. In Mr. SHIRLEY MURPHY'S hands each of the five insertions was successful in every case, giving an insertion success of 100 per cent; and the insertion success amongst the remainder of the persons operated on varied according to the vaccinator from 95 6 to 96 8 per cent. Such a result can only be attained by the use of fresh lymph; and since the best attainable success should be arrived at in order both to sustain the credit of vaccination and to avoid the multiplication of that very questionable class of failures returned as being "insusceptible," it would appear, so far as our present knowledge and experience show, that vaccination with fresh lymph should, as far as practicable, be aimed at both at home and abroad.

THE Scottish Lunacy Commissioners have this year included in their annual report a review of the changes which a period of five years past has witnessed in the number and distribution of the insane within their jurisdiction, together with some discussion of the broader questions suggested by a still longer retrospect. Among such subjects of inquiry the most interesting, of course, is the comprehensive question, Is lunacy upon the increase? Broadly, the figures which they have placed on record seem to justify the conclusion that the fact is so, for it appears that in thirty-two years the number of lunatics has increased by 111 per cent., whereas the general population has increased by no more than 35 per cent. The discrepancy is certainly large, but the Commissioners are of opinion that it does not indicate a corresponding growth of mental disease—that it does not, indeed, indicate any increase at all in the prevalence of insanity, but only a change in the way of dealing with it when it arises. This view certainly appears to be maintainable, notwithstanding the large discrepancy of figures which has to be accounted for, when it is considered that in the period under notice the methods of asylum treatment have been very greatly modified and improved, that the advantage of asylum regimen has come to be much more commonly understood and recognised, and that asylum accommodation has been greatly increased and rendered much more accessible. All these are important factors in the result; and another consideration which must be carefully borne in mind is that, as the Commissioners remark with much force, lunacy is a condition which is not capable of a rigid definition. The importance of this obvious point becomes apparent when they discuss the causes which have led to a large augmentation in the numbers of pauper lunatics. They point out that the introduction in 1875 of a Parliamentary grant to parochial boards in aid of the maintenance of pauper lunatics has had the effect of inducing these authorities to transfer a considerable number of paupers from the general class to that of

pauper lunatics. Many paupers, they observe, are in a feeble mental condition, which may or may not be regarded as lunatic. Before the introduction of the grant the parochial authorities were not likely to perceive any advantage in regarding such persons as lunatics, since one of the effects of placing them upon the register of pauper lunatics was to subject the mode in which they were provided for to special regulations. But any disinclination on the part of parochial boards to come under such regulations was diminished when these regulations became associated with a grant of money from the exchequer. Such considerations lead the Commissioners to the conclusion that the increase observable in the statistics of lunacy may fairly be attributed to a combination of influences of various kinds without assuming any corresponding increase in the prevalence of mental disorder. Their conclusion is perfectly consistent with the impression which a careful study of the statistics of lunacy in England leaves upon the reader's mind, and we are upon the whole disposed to concur in it. It should, however, be pointed out that the means of investigating this most important problem which the public, and even which the Lunacy Commissioners, possess, are quite insufficient for the purpose of a conclusive determination of the point in question, and that it would be eminently satisfactory to be able to say with confidence, upon a whole review, that the undeniable increase in the number of the insane had been undoubtedly counterbalanced by that mitigation of their symptoms in an average case which the theory of enlarged recourse to asylum treatment implies.

WE can bear out from personal observation many of the statements which are now going the round of the public press in reference to the habit of ether drinking in some parts of Ulster; for, in fact, some of the paragraphs are nothing more than copies of what we have reported in years gone by. The practice came into use about the year 1841–42, and was at first a kind of reaction against the great temperance movement which had been inaugurated by Father MATHEW. Ether, at that time of the ethylic type, probably not very pure, was substituted for whisky, and the habit, commencing in or near to Drapers Town and spreading over a small surrounding area, is continued up to the present day. The order of drinking, as we witnessed it during a visit to the district named, is singular. The ether purchased at open shops and at stores was doled out in wineglasses. The drinker first washed out his mouth with a draught of cold water, and after that tossed off a wineglassful of ether "nate," as it was said, drinking it quickly, almost at a gulp. Both men and women took part in this indulgence, and were speedily brought into a state of intoxication more or less complete. The intoxication differs from that produced by alcohol. It is more rapidly induced, and more rapidly dispelled; in fact, the effect of one dose may be developed and cleared off in a quarter of an hour or twenty minutes. The delirium is sharp, the stupor, for a brief period, deep, and the excitement, so long as it lasts, hysterical. We gathered particulars from a trustworty medical source of several instances in which the narcotism caused by the ether had proved dangerous, calling for the employment of artificial respiration; and we found evidence of four actually fatal intoxications, either from an excessive dose, or from asphyxia caused by the entrance of some of the fluid into the glottis, with succeeding spasm or obstruction. We gathered, at the same time, that tolerance to the effects of ether was much less marked than tolerance to alcohol; and we learned further, that organic disease from the habitual taking of ether was exceedingly small compared with the ravages and degenerations which alcohol leaves in its train. The explanation of these facts is not difficult; alcohol is so soluble that it enters the blood freely, pervades, with the water of the blood, all the tissues, and is readily retained by them to work out those serious osmotic changes which demonstrate its action as the most potent of degenerators. Ether, on the other hand, is comparatively insoluble, and as it boils at the temperature of the body and is diffused nearly as fast as it is introduced, it leaves few marks of mischief, except when it destroys life directly. Occasionally it gives rise to dyspepsia and to gastric irritation, with free eructations of gases mixed with ethereal vapour. But these symptoms belong to ether topers of a hardened sort, and soon pass off when the habit is abandoned. Of late years the use of the cheaper methylated ether has taken the place to a considerable extent of the ethylic variety, and some think with more injurious effects; but on this point there is no evidence strictly trustworthy. Officers of the Government have at various periods made inquiries in order to see if, by legislative action, the habit could be controlled or prevented, but as yet nothing has been suggested that has promised success, and the Excise officers are helpless, inasmuch as the spirit from which the ether is made has paid the usual duty previously to the manufacture.

Annotations.

"Ne quid nimis."

THE INFLUENCE OF FEMALE EMPLOYMENT UPON MARRIAGES, BIRTHS, AND DEATHS.

SO far as English vital statistics throw light upon this subject, they appear to show that in counties where the proportion of women engaged in industrial pursuits is large, the ratio of early marriages, as well as the actual marriage-rate, is high; and that as a natural consequence the birth-rate is also proportionally high. With regard to the death-rate, we have at present no statistics which enable us to judge of the influence of female employment upon the mortality of women, but it is an undoubted fact that the rate of infant mortality is abnormally high in most of those counties in which the ratio of women engaged in industrial occupations is much above the average. The last annual report of the Massachusetts Statistical Bureau, in dealing with the subject of industrial employment among women supplies some information relating to its influence on marriage, birth, and death rates, which, if mainly of a negative character, cannot be said to be without interest. After careful examination of the statistics of female employment in fifty cities and towns containing more than 64 per cent. of the total population of the State of Massachusetts, the opinion is expressed that employment of women in industry has not decreased the number of marriages or of births, and that neither has it increased the number of deaths. With regard to the pro-

portion of women employed in "gainful occupations," it is stated that whereas in 1875 it was 21·3 per cent. of the whole, it had increased to nearly 30 per cent. in 1885. Stated in another way, while the female population had increased 17·7 per cent. in the ten years, the number of employed women had increased 64·6 per cent. English census statistics showed a considerable increase of female employment between 1871 and 1881, but it is very unlikely that the results of the census next year will show a proportional increase of employment among women approaching that shown by the Massachusetts statistics. The influence of female employment upon marriage and birth rates, and upon mortality, is one which well deserves more careful investigation than it has yet received.

A CIGARETTE IN THE BRONCHUS FOR FOUR MONTHS.

DR. LAPEYRE mentions in a Paris medical journal a remarkable case in which an elderly gentleman, in consequence of a sudden slap on the back, unconsciously drew the cigarette he was smoking into his right bronchus, where it remained without causing any symptoms or in any way revealing its presence for nearly two months, when it set up pneumonia of a circumscribed area, and produced cardiac weakness and some œdema of the legs. After this condition had lasted without much change for about two months more the patient expelled during a violent fit of coughing the cigarette, enveloped in mucus and waxy-looking matter, and then remembered that he had never found his cigarette after the slap on the back four months before. The pneumonia persisted for two or three months after the expulsion of the foreign body, and some œdema of the right leg, due probably to embolism, remained at the date of the report nearly a year later. This, as well as some other cases that have been published, appears to show that the bronchi are exceedingly tolerant of foreign bodies even when not encysted.

CHOLERA INFANTUM.

MANY observations have been made with the aim of discovering a pathogenic organism in cholera infantum. Henoch came to the conclusion that we must at present regard the origin of this disease from micro-organisms as merely a hypothesis. Baginsky (*Centralblatt für Klinische Medicin*, 1890, No. 36) has also made investigations which have led him to conclude that there is no specific organism which produces the disease. He states, however, that he found several varieties of micro-organisms, which in his opinion together were the chief etiological factors. Jaksch states that the green colour so often seen in severe forms of this disease is due to the presence of a bacillus. Baginsky, in his paper referred to above, gives a very good account of the symptoms, sequelæ, and treatment of cholera infantum. He lays great stress on a peculiar eruption which often appears. It takes the form of roseola-like spots, which are found sometimes spread over the whole body, and sometimes only on the extremities. They disappear after about two days without desquamation, and are of no prognostic importance. Occasionally another form of exanthem is noticed, which may be regarded as an erythema. This also quickly disappears without unfavourable symptoms being foreshadowed by it. Amongst the sequelæ of cholera infantum Baginsky draws special attention to a condition which may be compared to that which occurs in Asiatic cholera, which this author designates "cholera typhoid." It is characterised by the following symptoms. The child becomes sleepy and apathetic; the temperature is high; there is great thirst; the stools are loose and contain pus and mucus in various proportions, and fibrinous threads are occasionally present. Pulmonary complications often supervene, such as bronchitis or broncho-pneumonia; pyæmic abscesses break out; the urine contains albumen, or there may be complete retention. The child lies with half-opened eyes, and xerosis of the cornea often results. As regards treatment, the same author advises calomel, resorcin, and naphthalin, together with antiseptics, in the lighter cases; at the commencement of an attack, if the child be strong and well nourished, it is well to wash out the stomach. It is also important to place the little patient on the lowest diet possible, or even to withhold food altogether for a few hours. The latter precaution applies not only to artificial feeding but also to the mother's milk. On the other hand, during this period it is advisable to administer brandy, sherry, tea, or coffee in iced water, and, if exhaustion be very pronounced, subcutaneous injections of ether. Gradually the child must be given weak gruel, milk thinned with iced water, &c. If complications occur, the various symptoms must be treated according to the usual methods; and the same remarks apply to sequelæ. Astringents should never be given; they are not only useless, but may even lead to evil results.

THE MEDICAL DEPARTMENT OF THE BRAZILIAN ARMY.

THE medical department of the Brazilian Army is being reorganised. The officers and their ranks are as follows:—1 inspector-general (general), 3 first-class surgeons (colonels), 9 second-class surgeons (lieutenant-colonels), 27 third-class surgeons (majors), 85 fourth-class surgeons (captains), and 75 assistant surgeons (lieutenants). The pharmaceutical officers are:—1 first-class pharmacist (lieutenant-colonel), 2 second-class pharmacists (majors), 8 third-class pharmacists (captains), 32 fourth-class pharmacists (lieutenants), and 44 assistant pharmacists (sub-lieutenants).

SEPULTURE IN ITALY.

ITALY claims, and with justice, to have led the movement by which cremation is being adopted throughout Europe as a means of disposing of the dead. The first crematorium was established on Jan. 26th, 1876, at Milan, and on Dec. 31st, 1888, there were in the peninsula twenty-one communes having crematoria in constant working, and other twenty-one communes in which crematoria were either in course of completion or in contemplation. After all, Italy is only returning to a usage which belonged to her classic period, but the circumstances that caused her to return to it do her little credit. In a highly-interesting report, issued by the Government Statistical Office, on the "Condizioni Igieniche e Sanitarie dei Comuni del Regno," we read a frightful account of the mode of interment practised within her borders, and even now but partially reformed. As recently as 1885, out of 8258 communes only 7864 had one or more cemeteries of their own, while 120 communes availed themselves of cemeteries constructed on the territory of a neighbour. In 274 the dead of the commune were interred in churches or receptacles hard by, and in 628 the only means of disposing of the corpses (of the poor, we presume) was to throw them into a common pit (*fossa carnaria*). Nor was this all. Of these charnel pits, 258 were within the inhabited radius, and 40 were at less than the regulation distance from this radius—that is, 200 metres. In other words, the mode of interment practised in war, and excused only on the ground of necessity, was the established, every-day custom in 628 Italian communes five years ago. No wonder that the resort to cremation meets with such ready acceptance throughout the peninsula. Concurrently with the introduction of the crematorium, however, which only in exceptional quarters is available for the poor, public agitation

has effected an improvement on the traditional system, and last year the 7864 communes having cemeteries of their own had risen to 8008, while the common charnel pits had sunk from 815 in 1885 to 287 in 1889. Reform, too, has been made in the matter of proximity of interment to habitation, but slowly, the latest returns giving, out of 8008 communes, as many as 2066 having cemeteries at less than 200 metres from dwelling-houses. As we write, however, we learn that 346 of these cemeteries are in course of removal to the distance required by law, and are also providing themselves with a mortuary chapel; but that, on the other hand, of the 287 communes having only charnel pits, not more than 49 are reforming this savage mode of sepulture. Such improvements as have been effected are doubtless due to the sanitary awakening evoked by Bertani's public health code, and before the century is out Italy may have brought herself to a level with the Teutonic countries of Europe in the matter of decent and properly regulated burial. Till then the less she boasts of her priority in reviving cremation the better

SQUALOR AND DISEASE.

THOSE whom charity or the duties of their calling bring much in contact with the poor need have no difficulty in understanding how it is that disease is an almost inevitable consequence of helpless poverty. In the case of a family lately relieved by the Shoreditch Board of Guardians this connexion was forcibly suggested and insisted on by one of the witnesses examined. The single apartment which served for a dwelling was an underground kitchen. Beneath the window the floor was rotted away, and rats from the neighbouring sewer ran about the room. For this wretched stye a weekly rent was charged, and was said to be paid. The owner would do no repairs. It is little wonder, in the circumstances, that the board referred the whole matter to the immediate attention of the sanitary authorities. Less they could not do, and we may now hope for such necessary reforms in this neglected den as will at least materially lessen the probability of threatened illness. Such cases as the above are unfortunately only too common in most of our city slums. The neglect of landlords and the squalid poverty and heedlessness of tenants combine to make the "rookery" a mere hotbed of all unwholesomeness, and a constant menace to the public health. The destruction of such hovels, it has been truly said, is the only true remedy for their foul condition. We must remember, however, that the cure would only be temporary unless the structures intended to succeed these were built so simply and solidly as to demand no great amount of exertion to keep them in order, and unless their state were periodically examined by a sanitary official.

MEDICAL PRACTICE IN BRITISH COLUMBIA.

CONSIDERABLE annoyance has been caused to several gentlemen registered in Great Britain by the uncertainty which has for some time past existed as to the state of the law in British Columbia with regard to their admissibility to the register of that colony—that is to say, whether British practitioners could be placed on the colonial register by the simple payment of the moderate fee of 10 dollars, or whether they stood in the same position as, say, Canadian practitioners with Quebec or Toronto diplomas, these having to pass an examination and pay 100 dollars. One British practitioner, whose letter will be found in THE LANCET of Aug. 17th, 1889, after having passed the examination and paid the larger fee, found that he had been misinformed, and on application secured the return of his money. During the spring of the present year, however, a new Amendment Act has been passed, stating that "whereas by an oversight in the classification and consolidation of the statutes of British Columbia intituled the Consolidated Acts, 1888," the section of an Act of 1870 declaring British practitioners entitled to registration was "therein consolidated and re-enacted as Section 30 of the Medical Act; and whereas it is expedient that such an error and oversight be corrected, therefore Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of British Columbia, enacts that Section 1 of the Medical Amendment Ordinance, 1870, is hereby declared to have been repealed by the British Columbia Medical Act, 1886, and the Medical Act, chapter 81, of the Consolidated Acts, 1888, shall be read and construed as if the said Section 30 had not been set forth therein." It would therefore appear that British practitioners will now be compelled to pass an examination and pay a large fee before being allowed to practise in British Columbia.

SUPPOSED OUTBREAK OF YELLOW FEVER IN SPAIN.

IN June last some alarm was caused both in general and in professional circles in Spain by a report that simultaneously with the appearance of cholera in Valencia yellow fever had been seen in Malaga. The circumstances which not unnaturally gave rise to this report are discussed by a naval surgeon, Señor A. F. Caro, in an interesting paper in the *Boletin de Medicina Naval*, who was, together with a military surgeon, Señor S. Garcia, deputed by the Government to investigate the case. It appears that a steamship named the *Hernán Cortés*, which sailed from Havana on April 28th with a cargo of cotton from New Orleans, after touching at the Canaries and Gibraltar, arrived at Malaga on May 20th, no case of serious disease having occurred during the voyage. On her arrival, according to some ancient custom, a choir of children from the orphanage of San Bartolomé were taken on board to sing to the passengers and to gather contributions for their institution. On the 25th, one of the children who had been on board, a boy thirteen years of age, was attacked by high fever and bilious vomiting, there being a marked change in his appearance, with deeply injected conjunctivæ and great prostration. Unfortunately, no further information could be obtained than that death took place in four hours, which was ascribed, on the official certificate of the medical man who attended the case, to "cerebral anæmia." The next case was that of another boy of thirteen, who had formed one of the choir which visited the *Hernán Cortés*. The death was certified to be due to "pernicious malarial fever." The three other cases presented much the same symptoms. In the more severe of the two the cold stage was very marked, and resembled that of cholera, and this one appears to have been diagnosed as typhoid fever. Apart from the facts that the ship in question had no cases of yellow fever and that the cotton on board came from a port where there was none at the time, and that no cases occurred at the ports where portions of this cotton were landed, the symptoms and course of the cases, though somewhat resembling those of adynamic forms of yellow fever, lacked some of their most essential features. On the whole, therefore, Señores Caro and Garcia are disposed to accept the diagnosis of pernicious malarial fever.

PURE WATER AT RAILWAY STATIONS.

IT is now generally admitted that water-drinking stands unrivalled as at once the most wholesome and the most effectual means of quenching thirst. It is also without doubt the most economical. We may reasonably ask, therefore, why it is that the simplest, most abundant, and most useful of all beverages can often

be obtained, even in this country, only in a state so impure as to render it a positive danger to health. As affording the most recent illustration of this too prevalent neglect, we may refer to a letter in which Mr. F. Eardley Wilmot has drawn the attention of railway directors to the fact that at many stations there is no sufficient supply of pure drinking water for the use of passengers and of their own *employés*. The natural consequence is that the public-house is commonly called upon to make good the avoidable deficiency. The hardship of this forced expense in a country abounding in water is the more obvious when we perceive that with a very little thought and management it might be entirely avoided. The letter accordingly urges on all railway companies the importance of providing at every station a sufficient supply of pure filtered water and clean glasses. The need of filtration will, of course, depend on the quality of water obtainable. In cases where constant service is available it might easily be dispensed with. If, however, the employment of cisterns or an excess of mineral deposit should render its use desirable, a cheap and simple filter might easily be provided. In the interest of the public generally, it is to be hoped that the reform suggested in this letter will not fail to receive that full consideration which it deserves.

THE VETERINARY DEPARTMENT OF THE BOARD OF AGRICULTURE.

IT is clear from the range of the work to be done that it is intended that the director of the Veterinary Department shall have under his control much the same machinery as the medical director of the Local Government Board has at its disposal. Should this be the case, most satisfactory practical and scientific results may be anticipated with confidence. Arrangements have been made by the board to place at the disposal of the director a completely equipped histological and bacteriological laboratory, and when this is fitted up and in full operation it may be expected that from it and from the various old-standing and recently instituted laboratories even more work in the department of comparative pathology and therapeutics may come than has already issued from such laboratories. There have been, and are still, good workers, and there are many others to whom only opportunity is wanting to develop into accurate scientific observers and investigators; and, much as the voluntary principle is to be admired, and averse as most scientific men are to too free Government subsidising of scientific work and workers, it must be agreed that much encouragement might be given by Government departments if they would give out a larger amount of fairly remunerated work than they do at present. The directors of both the medical and veterinary departments are struggling with many problems in the solution of which they would be only too glad to receive outside assistance, and had they funds at their control there can be little doubt that they would avail themselves of the assistance that might be obtained from men working under the guidance of the heads of experimental laboratories than they are able to under existing conditions. Many of the laboratories which are at present maintained entirely by voluntary effort or private benefaction would be able to extend very materially their sphere of usefulness by the addition of very moderate Government subsidies, and in return these various departments would have a claim for assistance in any special work on which they might be engaged.

"UNDERSTANDINGS" WITH LOCUM TENENS.

A VERY remarkable decision has been given touching the obligations of a *locum tenens* to his principal by Mr. Montagu Williams. Mr. Robert Kennedy, of 163, Ossulston-street, had engaged the *locum tenens* at the rate of three guineas a week. His duties, according to the *Islington Gazette*, which reports the case, were to attend the patients, to receive petty cash, and give an account to witness on return. The "understanding" was that the principal had an exclusive right to the services of the *locum tenens*. Before the Court the *locum tenens* was charged with embezzling £14, which he is alleged to have received. The magistrate ruled that, as there was no written agreement and nothing had been said as to rendering account, the prisoner was not a servant, and was dismissed. We can only record the case for the instruction and warning of principals and assistants alike. The decision seems to us a very shocking one. The understanding was sufficient to serve as a basis for the claim of the *locum tenens* to be paid, and should surely have been enough as a basis for the claim of the principal to a proper account. But law is—law.

SUICIDE IN PRUSSIAN SCHOOLS.

BETWEEN 1883 and 1888 official returns have been made of this ghastly occurrence, with the following results: there were 58 suicides on the part of the youth of either sex attending school in 1883, 41 in 1884, 40 in 1885, 44 in 1886, 50 in 1887, and 56 in 1888. Among these suicides 19, 14, 10, 8, 17, and 12 were scholars in the higher institutions in the respective years from 1883 to 1888; the rest attended schools of a lower grade. According to sex the total of 289 suicides is divided into 240 boys and 49 girls. The investigation of the motives for self-murder on the part of these young persons is peculiarly difficult, details as to their physical and psychical qualities as well as their antecedent life being either too scanty or too untrustworthy. In 86 cases (29·8 per cent. of the whole) the motive of the suicide remained obscure. In the others fear of chastisement accounted for 80, of whom 78 attended the lower schools. Mental disorder and melancholia drove 26 to self-murder; morbid ambition 19 (of whom 11 were pupils of the higher institutions); fear of examination (the examiners being either not faced or unsuccessfully encountered) 16, and of these 15 belonged to the superior schools. In 7 cases practical joking was adduced as the cause of suicide, and in 5 disappointment in love.

LIBRARIES AND INFECTION.

IT might well be supposed that the question whether infectious disease is carried by library books had long ago been answered. It is at all events indisputable that they, like any other articles in a sick room, are capable of retaining the germs of contagion, and all the more so that their available surface is multiplied by the number of their leaves. Letters have repeatedly served as germ-bearing media, and though there is greater difficulty in detecting the influence of volumes which pass from hand to hand in a circle of readers, reason and experience forbid us to doubt that they also have acted in the same way. The degree in which this transference of contagion is ordinarily liable to occur would afford scope for profitable inquiry on the part of librarians and of family practitioners. The practical issue immediately arising out of the question is, of course, that which concerns the work of isolation and disinfection. Arguments directed against the lending system on account of the facilities it affords to infection are not, we consider, of much practical value. With perhaps equal justice one might condemn the common use of street pavements or of public vehicles. Like these, the library is an indispensable public boon, and cannot be set aside through dread of any ordinary and avoidable accident of illness. The only rational safeguards, as we explained in THE LANCET of May 24th, are to be found in a careful registration of infected houses, in the refusal of all fresh loans to such houses, and in the purification of any volumes known to be infected before their restoration to the library.

This process we suggested had best be carried out in the library building, where a special disinfecting air chamber might readily be provided.

THE BACILLUS OF PURULENT URINE.

SOME experiments have been made in the laboratory of Professor Strauss in Paris by Dr. Krogius on the puriform urine of ten patients suffering from chronic stricture, with catarrh of the bladder and pyelo-nephritis. In one of these cases a bacillus was found of rather polymorphous appearance, resembling a small mobile pencil with rounded ends. The bacillus was from 1·8 μ to 3·6 μ in length, with a breadth equal to one-third of its length. When cultivated the length became considerable, but it developed no spores. It was easily dyed by aniline, but with equal facility decolourised by Gram's method, and it liquefied gelatine. At a high temperature it developed most peculiar colonies. They were distinguished by a strong characteristic odour resembling that of purulent urine. The development of ammonia was very marked. The bacillus very quickly decomposes urea into carbonate of ammonia and water. When newly cultivated and injected in doses of half a cubic centimetre into the subcutaneous connective tissue, veins, or peritoneum of rabbits, it often caused death in two hours, and never took more than two days to act fatally. Older bacilli are still more poisonous. The puncture shows first œdema and redness, and then the epidermis becomes gangrenous with an ammoniacal odour. The animals themselves are, in a few hours after the injection, in a state of high fever, prostrated, and suffering from profuse diarrhœa, and ultimately coma comes on, during which they sometimes die in convulsions. The bacillus is called by the author "liquefaciens septicus."

ÆTHYL BROMIDUM.

THREE cases of poisoning from æthyl bromidum have recently been reported from Berlin, where it seems to be much used as an anæsthetic for dental as well as for small surgical operations, and Dr. Mittenzweigs warns people against its employment. Some years back æthyl bromidum was used in this country extensively, as it has the advantage of acting quickly and rarely producing sickness, but the number of fatalities attending its use has led to its loss of popularity. As far as we know it is a drug but little, if at all, employed by English dental surgeons.

THE STREET-CRYING NUISANCE.

WE must admit a fellow feeling with the Manchester City Council, who have in a recent by-law taken steps to abate the annoyance caused by street cries, and so long endured by a patient population. The resolution provides a penalty not exceeding £5 for any vendor of goods convicted of continuous shouting. The din of the noisy street salesman has become a veritable nuisance. It takes no heed of any circumstance outside of a doubtful trading advantage. Times and localities, apart from this, are disregarded. It matters not if for other persons or for their callings quiet may be necessary. The sick and the sleepless enjoy no exemption, nor can they by any such devices as those which muffle the rattle of wheel traffic prevent the constant disturbance of their rest. Yet they pay with their health for the hawker's privilege of advertisement. It must therefore be sufficiently clear that there are persons, and these not a few, who have daily reason to regret that some trades are not in one sense more quiet. The convenience of the home-keeping housewife and the profit of the street hawker have no exclusive right to be respected, and the innovation of the Manchester authorities which merely qualifies the hitherto unlimited privilege of the latter class is more truly a defence of than a menace to private liberty.

A BISHOP ON FRESH AIR IN CHURCHES.

WHATEVER its value from a religious or ecclesiastical standpoint, certainly no objection can be urged against the latest argument advanced by the Bishop of Chester in defence of the daily opening of churches. There can be no question as to the benefit implied in such thorough ventilation as would thus be effected. Its corrective influence on possible traces of infection conveyed by worshippers, or on the malaria which from one or other cause is apt to cling to venerable fanes, would thus be assured in a way not provided for by present methods of church management. Of course it does not follow that efficient ventilation can only be attained by such a scheme of church opening as that contemplated by the Bishop, nor need we suppose that in promoting it he is governed entirely or even chiefly by a desire for purer air. For its own purpose, nevertheless, the weapon which he has borrowed from the armoury of medicine is one of proved quality.

CANNABIS INDICA IN GASTRIC DISORDERS.

A VERY useful contribution to our knowledge on the treatment of the various varieties of indigestion is published in the *Deutsche Medicinische Wochenschrift* of August 14th and 21st of this year, by Dr. G. Sée, who, as stated in our Paris correspondent's letter of last week, has dealt with the same topic before the Academy of Medicine. After a full discussion of the forms of indigestion that are recognised, and the use of cannabis indica in their treatment, Dr. Sée arrives at the following conclusions: 1. The most convenient form in which to employ the drug is the extract in doses of about three-quarters of a grain daily, divided into three portions. Above this dose the drug is apt to produce unpleasant effects. (The French extract is stronger than the English.) 2. The drug was chiefly tried on the non-organic affections of the stomach. These were divided into two groups. The first included cases in which the gastric juice was altered in composition, especially if there was an excess of hydrochloric acid. The second group consisted only of cases of gastro-intestinal neuroses, in which there was no change in the digestive juices. 3. All these affections—dyspepsias and neuroses—were characterised by five sets of symptoms, occurring in various proportions. (*a*) Pain, local or radiating, arising spontaneously or after food. The variations in appetite belong to this group. (*b*) Atony of the stomach, with or without dilatation, is almost always present. Vomiting is more frequent in the neurotic cases. (*c*) Flatulence and eructation occur in most cases; in the neuroses the gas consists chiefly of air which has been swallowed; gases formed by decomposition arise from lactic or acetic acid fermentation, and not from excess of hydrochloric acid. These gases are the cause of the painful symptom known as "heartburn." (*d*) The gastric digestion of flesh food and albuminoids is little affected when hydrochloric acid only is in excess, but it is deficient when too much lactic or acetic acid is present, and completely in abeyance when there is deficiency of acid. In the neurotic cases gastric digestion is normal. Constipation is the rule in most cases. (*e*) In this last group are placed the varied symptoms—giddiness, migraine, palpitation, agoraphobia, &c. 4. Cannabis indica gives relief from pain and increases the appetite in all cases, no matter on what causes the pain and loss of appetite may depend. If, however, too much hydrochloric acid be excreted, it is better to aid the action of the drug by large doses of bicarbonate of soda, given about four hours after food. Cannabis indica has no beneficial action on the atonic state of the stomach, but it relieves vomiting and cramp of the stomach. The drug has no direct influence in checking flatulence, but it aids the expulsion of the gas and diminishes heartburn. The digestion of food is

improved, if the failure depends upon neuro-paralytic conditions, or is rendered painful by an excess of acid, but no improvement is produced if the disorder is caused by a want of acid. As regards the other symptoms—giddiness, sleeplessness, palpitation, and the like,—some relief is generally experienced by the use of this drug, but no alteration for the better is noticed in the hypochondriacal, hysterical, or neurasthenic conditions. In short, cannabis indica may be said to be a true sedative to the stomach, without causing any of the inconveniences experienced after the administration of opium, chloral, or the bromides. It should be combined with the use of alkalies in large doses and with mild aperients.

A SIMPLIFIED TEST FOR SUGAR.

PROFESSOR NOTHNAGEL has communicated to a meeting of the Medical Association at Vienna a paper received from Dr. Becker of Cairo on a simplified test for sugar, which depends upon the fact that the paper used for the manufacture of visiting cards contains a large quantity of potash to make it heavier and fuller. When this paper is brushed over with a concentrated solution of sulphate of copper and then dried, the salt is crystallised on the surface. If the urine containing sugar is then added by means of a bit of wood and allowed to dry by the action of the air, or by holding it over an Argand burner (without browning the sulphate of copper), the latter is liquefied by the water contained in the small crystals, and the alkaline paper immediately produces the sugar-browning reaction. The more sugar the urine contains, the darker the colour produced. The author considers the test highly sensitive.

HOSPITAL WORK AT PEKIN.

THE London Missionary Society's report of the condition of this station shows that the accommodation has become quite insufficient for the number of in-patients, so that the treatment of the out-patients has become the main work of the institution. Last year the number amounted to 19,243. A great change is observed in the attitude of the poorer Chinese towards amputations, and several of these operations have been performed successfully. One case is recorded in which a cook intentionally chopped off four of his fingers for a curious reason. He was quarrelling with another man, and to impress the latter with his courage and indifference to pain he deliberately mutilated himself. In another case a youth removed a portion of the calf of his leg in order to make soup for his sick father with the flesh. The father died, and the son became a patient at the hospital. One hundred and fifty-nine patients were treated for opium smoking. Attempts have been made to get rid of the habit on account of the waste of time it involves, or by reason of the impecuniosity of the victims. Several have conquered it on account of its injurious results on their bodily health. Six are reported to have been cured by home influence, and three by arguments advanced by Christian teachers.

THE MECHANICAL TREATMENT OF CHRONIC DYSPEPSIA.

DR. CSÉRI of Budapest publishes in the *Wiener Medicinische Wochenschrift* an account of a mechanical plan of treatment of chronic dyspepsia, which he has lately been carrying out with favourable results. The plan consists mainly in suitable dieting and in a peculiar kind of massage. The author practises the latter when the stomach is full, about two or three hours after dinner. Changing frequently his mode of proceeding, he strokes and kneads the stomach from the fundus towards the pylorus, first gently and superficially, then more energetically, for ten or fifteen minutes, the patient lying on his back with his legs drawn up and breathing with his mouth open. During the last few minutes the massage is extended to the bowels. The manipulation is neither painful nor disagreeable, but is very well borne. The patients experience after the massage a feeling of warmth and comfort; occasionally they feel sleepy, but the fulness and feeling of weight have generally disappeared. After a few days they are in better spirits, all fear of coming cardialgia being entirely banished from their minds. The immediate result of this kind of massage is that the stomach is freed from the many gases which are continually being generated there, and this alone produces a great feeling of relief. The hour for the massage is chosen because it is the time when part of the already chymified ingesta begins to enter the duodenum from the healthy stomach. In dyspepsia the stomach is generally sluggish, and either the quantity or quality of its secretion is impaired, and consequently chymification or peristaltic motion, or both, are insufficient. It is also known that mechanical stimulation of the stomach may increase its secretion, and the author considers himself justified in concluding that massage increases in this way the process of digestion. He also finds that at the same time, either through neuro-muscular or true pathological change, muscular power increases, and the massage, no doubt in a purely mechanical way, helps to advance the stomachic contents into the duodenum. The rapid cure of pains and general malaise after eating in cases of nervous dyspepsia is explained by the fact that the manipulation dilates the pylorus, so that after a few days it offers no impediment to the food passing through it.

SCOTTISH FISHERIES.

THE annual report of the Fishery Board for Scotland is generally a document of great interest, and this year it fully sustains that character. It deals with both practical and scientific questions, and in a way that leaves nothing to be desired. Happily, upon the practical side, the board has an eminently satisfactory report to present. The immense and growing importance of the Scottish fisheries is very strikingly illustrated by the statistical results comprised in the report. The take of fish, though varying according to species taken and locality under description, was upon the whole distinctly larger last year than in previous years, and the trade has manifested a corresponding expansion. The importance of the development of these sources of food-supply, whether from the economic or from the hygienic point of view, can hardly be exaggerated. Yet great as are the opportunities which the possession of valuable fishing grounds places within the reach of an island population, it is not too much to say that they have heretofore been mainly thrown away through want of management and lack of knowledge. We are reminded at the present moment of the defective arrangements made for the distribution of fish to the consumer by the arrival of a strongly worded circular from Mr. J. Lawrence Hamilton, in which our correspondent—whose knowledge of these matters and lively interest in them are widely understood—renews his complaints of the waste and deterioration of fish-food which results from the condition and organisation of the Billingsgate market. But even apart from any questions of this sort, there are vital questions of fish culture and scientific fish capture which can scarcely yet be said to have been opened for discussion. The unintelligent industry which hunts down a particular prey until it is exterminated has already gone very near to destroying the trade of the seal-fishers and elephant-hunters. It is abundantly clear that in the case of some of the smaller and more prolific denizens of our fisheries the same result may be expected unless timely measures are

adopted for controlling the industry. To such considerations the chief and most interesting part of the board's report is directed. Very excellent work is being done by the capable naturalists whom they are employing in the way of determining the effect of the time and manner of catching upon the proportion of immature fish captured. Scarcely less important are the observations made upon the habits of fish with a view to their protection by suitable regulations, the provision of spawning facilities, and the supply of appropriate food. In all these respects the results actually attained by the board augur well for the ultimate outcome of their labours, but the vastness of the field of their inquiry compels the conviction that tangible results can only be reached by a long and slow process. In the meantime, their admirably compiled record of work done and scheme of work in hand is well calculated to produce the impression—not a common one when the work of a Government department is under consideration—that here we have a difficult task being very efficiently performed.

MALIGNANT ENDOCARDITIS FOLLOWING COLITIS.

DR. F. C. SHATTUCK (*Boston Med. and Surg. Journ.*, No. 4) records a case in which malignant endocarditis was associated with ulcerative colitis. From the course of the case and the extent of the bowel lesion—the whole of the colon, from the hepatic flexure to the rectum, being ulcerated—there can be little question that the cardiac valves had been secondarily infected. The case was marked by the appearance of subcutaneous abscesses, apparently of embolic origin, and preceded by an attack of rheumatism. At the post-mortem examination the aortic and mitral valves were found to be fringed with vegetations, but there was no "ulceration" of the valves. Although examination of the contents of one of the abscesses and of the blood did not result in the detection of any bacteria, it is impossible to avoid the inference above surmised as to the relationship between the intestinal and cardiac affection. It does not appear, however, that the endocarditis was other than recent, which is exceptional in such cases, the character of "malignancy" or of "ulceration" being, as a rule, imposed on valves chronically diseased. The case, however, emphasises the truth of the doctrine that this form of endocarditis is septic in its nature; and, although in many instances it is impossible to assign a proximate cause for the affection, yet there are not wanting in literature several examples more or less parallel to the above. One point of interest is the occurrence of an attack of rheumatism preceding the signs of endocarditis; the joint affection could hardly have been pyæmic, as it entirely subsided, whereas the subsequent development of multiple abscesses showed clearly that the endocarditis had acquired infective properties, although it may have been initiated by the rheumatism.

PRIMULA OBCONICA AND DERMATITIS.

MANY plants are known to possess powerful irritant properties when applied to the skin. In America several species of rhus, especially the rhus venenata and rhus toxicodendron, are the best known, and excite in some people the most violent dermatitis. Generally actual contact is required, but in the most susceptible the fact of being in the neighbourhood is sufficient. Professor Maisch has discovered in these plants a very volatile acid, toxicodendric acid, which he thinks is the irritant. In this country we are best acquainted with the effects of the common stinging-nettle, mezereon, and arnica; and Mr. Alfred Anderson, of St. Andrews, a student of medicine, writes to us drawing attention to the irritant action of the pretty variety of primrose known as the primula obconica. Introduced into horticulture during the last few years, it is only recently in gardening circles that its irritating properties have been suspected; for, like the deadly rhus toxicodendron and other plants of this character, everyone is not susceptible to its influence. Several cases, however, are published in recent numbers of the *Garden*. The parts first attacked are naturally the back of the hands and fingers, and the eruption may extend thence to the forearms, or the irritant itself may be transferred to other parts, such as the eyes (generally the right), the mouth, and the nostrils, where it excites a burning irritation with more or less inflammation. In eczematously disposed subjects a widespread attack may be induced. In others, the eruption is generally a diffuse erythema with desquamation, or it may occur in red blotches, probably of urticarial character. The irritant properties seem to reside chiefly in the leaves, and some consider that they are more irritating when these are withering. Dr. Wilson, of St. Andrews, found that there are glandular hairs on the leaves, and though probably they are the source of the mischief, this point has not been proved; it is, however, all the more likely from analogy with plants like the stinging nettle. Although primula obconica is not likely to produce any widespread trouble, it is well that such facts as the above should be known, as it may be the key to otherwise puzzling cases, as in an instance related of a lady who constantly wore the flower and suffered martyrdom for months before she discovered what a truly vegetable viper she was cherishing.

COUNTY HEALTH OFFICER FOR ESSEX.

THE proposal which was recently set on foot for appointing Dr. Thresh, medical officer of health for the Chelmsford and Maldon rural sanitary districts, to act in the same capacity for the county of Essex, has now assumed a definite form, the desire being that he should be elected for the purpose of collating the reports of the local health officers, and of reporting quarterly to the Sanitary Committee of the Council in matters likely to affect the health of the county.

CHOLERA INTELLIGENCE.

THE cholera intelligence from Spain during the week ending the 16th inst. has been but sparse, but there is further evidence to indicate that the tendency to a further diffusion of the disease, which was evident during the preceding week, still continues. Cholera is increasing in the cities of Toledo and Valencia, and has reappeared in the provinces of Albacete, Alicante, Castellon, Tarragona, and Toledo. The actual number of attacks and deaths has also risen to 3983 and 2020 since the commencement of the epidemic. There is also a want of definite information as to the disease in Mesopotamia, although it is quite clear from the despatch of a Commission of Russian medical men into Asia Minor, with a view of studying the effect of a new remedy, that the infection is still at work there. It has also been reported that cholera is prevailing extensively at Vladivostock, the Russian naval fortress on the North Pacific. The occurrence of an outbreak at Massowah, with fifty deaths a day, and rumours of one at Tokar, together with the intelligence that the disease has appeared at Aleppo, must doubtless be regarded as in some way connected with the epidemic amongst the Arabian pilgrims, whose detention in quarantine has not sufficed to prevent extension of the infection. There is happily as yet no cholera in Europe, except that prevailing in Spain, but the number of localities which are now infected, and from which there is constant communication with European States, makes it extremely doubtful how long the present immunity is likely

to be maintained. And we are hence glad to state that both in this country and elsewhere preparations are being made, by way both of improved sanitation and by the provision of means of isolation, to meet any imported infection. In France there is an evident determination to insist on the strict enforcement of the regulations as to notifying residence by persons who are allowed to pass the frontier from Spain, and several who have failed to comply with the rules as to this have been both fined and imprisoned.

THE DIURETIC ACTION OF CALOMEL.

THE diuretic action of calomel is now so well recognised, and its value in the treatment of cardiac dropsy, owing to this property, has become so well established that further reference to it may seem to be unnecessary. We may, however, venture to note the appearance of a paper by Dr. Packler of Cincinnati (*Journal of American Medical Association*, Aug. 16th), since it embraces an interesting historical sketch of the subject, from the original observations of Dr. Jendrassik in Budapest in 1884, and the subsequent work of Rosenheim and Stintzing, who formulated rules as to its prescription. Dr. Packler gives details of a few cases of his own, and concludes his study of the subject as follows:—1. Calomel, and in all probability other mercurial compounds, possess diuretic properties. 2. If given in proper dose, the effect of calomel becomes evident in from two to ten days. Continuance of the treatment during the diuresis will not alter or increase the effect. 3. Its action is most marked in dropsies due to heart disease. Its action in dropsies of hepatic origin is not to be relied upon. Pathological changes in the kidney prevent or abridge its action. 4. Small doses will prove of no avail. 5. The diuretic action may, in all probability, be ascribed to the irritating effect which the mercury, during its elimination, exercises upon the renal epithelium.

OPHTHALMOPLEGIA EXTERNA OF EMBOLIC ORIGIN.

MM. BOUVERET and CURTILLET record (*Lyon Médical*, Sept. 14) the case of a young woman, the subject of double mitral disease, who two months after an attack of left hemiplegia, clearly due to embolism, was suddenly seized with vertigo, accompanied by diplopia. The latter symptom persisted, and Professor Gayet ascertained that it was due to paresis of both internal recti muscles, that of the right side being the more pronounced. Visual acuteness was normal, and the iris was unaffected. The diplopia was crossed, and occurred to the right and left (not so marked) and also in median vision, the last being only ascertained by the perimeter. The facts that the two muscles mentioned were alone affected, that the iris maintained its integrity, taken in connexion with the bilateral character of the paresis, excluded any lesion of the orbit or base of the brain. Nor could it be cortical, since in monocular vision the movements of the internal recti were of normal extent; and for the same reason it was held that the nucleus of the motor oculi was intact. It was noteworthy that the paralysis was most marked when there was an attempt to turn the eye to the right or left—i.e., when the internal rectus of one side was acting in concert with the external rectus of the other; and the authors point out that the internal rectus is innervated by fibres from the sixth (proceeding to the muscle of the opposite side) as well as from the third pair of nerves. The former fibres ascend beneath the floor of the fourth ventricle, and intersect with those coming from the other side. They infer that the lesion was at this point of intersection of fibres, coming from the nucleus of the sixth to join those of the opposite third nerve—fibres which are only excited when contraction of the internal rectus is associated with that of the opposite external muscle—as in lateral binocular vision. At this spot in the pons, then, there was probably a patch of embolic softening, due to a plug in one of the arterioles furnished by the basilar artery to the pons. The embolus must have been very minute to produce so limited a lesion.

FOREIGN UNIVERSITY INTELLIGENCE.

Bonn.—The Honorary Doctor's Degree is to be conferred on Sanitary Councillor Cassel of Cologne.

Erlangen.—Dr. von Gerlach, Professor of Anatomy, who had intended to retire, has decided to continue his lectures next session.

Florence.—Dr. Chiarugi of Siena has been appointed Professor of Anatomy.

Munich.—Dr. Messerer has been promoted to be Extraordinary Professor of Forensic Medicine.

Naples.—Professor Bianchi of Palermo has been appointed Extraordinary Professor of Mental Diseases.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Duménil, Clinical Professor in the Rouen School of Medicine; and Don J. I. Quesada, of the Valladolid Provincial Hospital.

DURING the months of June and July the mortality and sickness of the European section of the population at Cape Coast is reported to have been very great. It seems there is no proper system of sanitary control; indeed nothing but a personal watch kept on each individual could check the filthy habits of the natives. Except when diluted with a fresh breeze from the sea the odour from every side is said to be intolerable. Proper sanitation is very much hampered by want of funds.

IN consequence of the alarming increase of granular ophthalmia in the south of Hungary, the Minister of the Interior has arranged that courses of instruction on the treatment of this affection shall be given to medical practitioners in different centres. These will last a fortnight. The first course, which is now just completed, was given in the Eye Hospital at Maria-Theresiopel. Other courses will be given both there and at Szegedin. Practitioners attending these courses will receive a Government allowance for their travelling and expenses.

ONE of the interesting events in connexion with the recent annual meeting of the British Dental Association was the presentation by the president, Mr. S. Lee Rymer, on behalf of the committee of the Turner testimonial fund, of the portrait of Mr. Smith Turner to the Association; also a replica of the portrait to Mr. Turner, or rather, to his family.

AT the Glasgow Maternity Hospital, Dr. Murdoch Cameron, on Sept. 11th, added a fourth successful case to his list of Cæsarean sections. The patient was rachitic, the conjugate diameter being only 2 in. Both the mother and child are doing well.

DEPUTY SURGEON-GENERAL WILLIAM WALKER, M.D., Retired List, Bengal Medical Department, has been appointed Honorary Physician to the Queen, vice Surgeon-General F. F. Allen, C.B., deceased.

PROFESSOR MARIANO SEMMOLA of Naples, in consideration of his services to medicine, particularly in pathology and therapeutics, has just received from the Sultan the Grand Cordon of the Medjidie.

THE minutes of the evidence taken before the House of Lords' Committee on the Children's Life Insurance Bill and the report of the committee have just been published as a Blue-book.

THE Austro-Hungarian Government has officially announced its intention of taking part in the International Sanitary Conference which is to meet in Rome.

THE Society of Naturalists and Physicians in Germany holds its next meeting in the autumn of 1891 at Halle—a city in which it has not met since 1824.

THE LANCET
Special Sanitary Commission.

REPORT
ON
SANITATION AT SEA.

SEAFARING men have more than once complained in our presence that sanitation seemed to cease at the seashore. Once the ship leaves port, there is no authority save that of the captain. But the captain rarely takes an intelligent interest in health questions; and if he does, he meets with but scant encouragement from the shipowners. There has been legislation abroad, in the colonies, and at home which protects, to some extent at least, the health of emigrants. The second and first-class passengers are able to take care of themselves. The fierce competition raging amongst the different lines of steamships generally enables the traveller to obtain excellent accommodation if he can afford to pay for it. But the sailor and the fireman are almost unprotected. Scattered and separated from each other by the very nature of their work, ignorant because they have but little social intercourse with the rest of the world, spending but a few days at a time on shore, where they often indulge in dissipation rather than in study, the sailor and the fireman have not been able to bring their grievances forward and obtain redress. Now, however, there are decided signs of improvement. The sailor has learnt to follow the example of the workmen who remain on shore. Strong societies have been formed. Eighteen of these associations were represented at the Liverpool Trades Union Congress by twenty-one delegates, and they succeeded in obtaining the unanimous support of all the other trades represented in carrying resolutions that have a direct bearing on the preservation of health at sea. One of these resolutions demanded the amendment of the Merchant Shipping Act, 1854, section 231, subsections 1 and 2, which, as they now stand, only allow 72 cubic feet of space for each seaman on board ships, and recommended that such amendment should provide for a space of not less than 150 cubic feet.

The question of space, we need hardly remark, is really of less importance than that of ventilation. Even 150 cubic feet, where no ventilation is possible, is not sufficient, and 72 cubic feet, with ventilation, would be preferable. We have visited the sailors' and firemen's quarters on a great number of ships, and in no instance have we found any scientific effort to grapple with the question of ventilation. On several of the vessels which we boarded, not only were the cabins devoid of proper ventilation, but the air was rendered still more foul by the paints and mineral oils which were stored in small cabins or lockers generally situated on either side of the gangway leading to the sailors' forecastle. There is a twofold objection to this. In case of fire it would render escape from the cabin impossible; and, secondly, the odour of the paint, the fumes of the volatile oils, pervade the sailors' quarters, thus making them still more unwholesome. Very frequently, to reach their quarters, the sailors have to pass through a very small hatch and descend by a ladder to a depth of ten or more feet into the lower decks of the ship. If an accident or collision occurs, and something falls over the hatch, this aperture is so small that the sailors or firemen below are unable to get out. Many lives have been lost in this manner. The men below might have saved their lives, and perhaps the ship also, if the hatch had been wider and not so easily blocked by débris.

Down in these noisome cabins the sailors and firemen herd together in a manner that would certainly not be tolerated by any farmer for his cattle, dogs, or horses. We have heard more than one sailor indignantly protest that convicts in Her Majesty's prisons enjoy 370 cubic feet of space, whereas the British tar, the pride of England, has only 72 cubic feet of space. The comparison, it is true, is scarcely allowable. There is more available space in a prison than on board a ship. But there is very just ground of complaint in the fact that ventilation is much better studied in prisons than on board ship, though, in consequence of the want of space, careful ventilation is far more necessary in the latter than in the former.

In some services—notably steamers trading with the coast of Africa—the condition of the sailors' quarters is rendered infinitely worse by the live stock kept therein. We were assured that in some instances the crews were paid less than the ordinary rate, but in compensation they were allowed to trade a little on their own account. This trade consists principally in bringing over to England monkeys, parrots, and other such animals. We visited the forecastle of several ships that had just arrived from Africa, and found that the space which should have been air space was rigged up with shelves, perches, &c., and crowded with living animals. Seventy-two cubic feet is not much for a human being, but if this space is shared by parrots, monkeys, the vermin these animals carry, and the filth they make, the atmospheric conditions that result may better be imagined than described. As an apology, it is urged that the sailors and firemen do not often sleep in their berths, but find some secluded corner on the deck where they can rest in the open and pure air. This may be possible when the weather is fine, but after enduring the tropical heat of Africa how can men sleep on deck when beating up the Channel against fogs and rain?

On board these African steamers, and also on many other ships, we found that the berths for the sailors and firemen were placed against the very shell of the ship. The iron sides were not covered with wood; consequently, the moisture of the air condenses on these iron walls, and runs down the sides. As the man lies sweltering in the heat of the overcrowded, badly ventilated cabin, he may unconsciously, and while sleeping, rest a bare limb against the cold, wet iron side of the ship. This may well help to determine an attack of rheumatism. There are also any number of angles, ledges, corners, dark and inaccessible, which are rarely if ever washed, where dust accumulates, and which form an excellent culture-ground for the breeding of microbes. If ship carpenters and joiners had some notion of the principles that govern the construction of hospitals, they could render cabins far more healthy, and so arrange as to obtain a maximum of cleanliness from a minimum of washing. In some of the cabins the berths were so situated that the men's heads lay against their neighbours' feet, without any partition. Also we failed in many instances to find scuppers, so that the floors could not be freely washed. Where there are no scuppers the wet must be mopped up and carried on deck by means of buckets. This involves a great deal of labour, which sailors, wearied by their ordinary duties, can hardly afford to give; consequently, the cabin remains in a dirty condition, and if a sea comes in we have in addition to the dirt the inconvenience of wet and damp. In one vessel which we visited we found that the caulking was coming out; pieces were protruding from the boards, and hanging down, so that they could be seized with the fingers and pulled away. In the engine men's quarters so much water had come in through the leaking deck that portions of exposed iron within the cabin were covered with rust. Other ships had no bottom to the bunks. The bedding was kept in by very small metallic laths. These cut the

bedding, and let some of the bedding and all the dust down upon the person sleeping in the bunk underneath. In a great many cases the closets were close to the entrance to the sailors' quarters. These closets were not flushed, and were filled with soil. The excuse given was that the ships were in port, but that the closets would be flushed when at sea. Other closets depended for their flushing on the working of the engines. It seems to us, however, that if closets cannot be flushed in port, they should not be used in port. One, at least, of the Atlantic companies does carry out this rule, and locks up the closets of its ships on reaching dock.

The condition of the firemen is much worse than that of the sailors. However overcrowded his cabin may be, a sailor's occupation is essentially healthy. He breathes, while on duty, the purest air; has healthy, vigorous exercise. But the fireman must labour in the intense heat produced by the furnaces. The exhaustion due to the exposure to the fire is most painful, and breaks down the strongest constitutions. Six or seven years' constant work as a firemen on board a steamer seems sufficient to ruin the health of a strong man. The trying nature of the work cannot be denied, but it is urged that the men are only on duty four hours out of twelve. In actual practice this is often not the case. There are the ashes and clinkers to be cleared away after the watch is over, and this takes up some considerable time. More serious than that objection is the fact that firemen are often ill. There are never any extra hands on board, and therefore, when one fireman is ill, two other firemen have to work for six hours instead of four in every twelve. This makes twelve hours per day of exposure to the fierce heat of the stokehole. With the sailors it is possible to work the ship even when there is a hand or two short; to keep up the fire for the engines the full complement of firemen and trimmers must be there—not one can be spared. It is a terrible misfortune for the firemen if any among them fall ill. There is then every chance of illness increasing in a ratio that might be compared to compound interest. Thus, if one man is ill, two men have to work six hours instead of four. Overcome by this stress, they also may fall ill; then four men have to work extra time. If three men are ill, then six men are affected. Considering the mischief arising from this extra work, we cannot but suggest that it should be a rule for steamships to carry at least one or two more firemen than are absolutely necessary. This would be but a fair, natural, and humane precaution, considering the dangerous and exhausting nature of the work and the frequency with which the strongest and the healthiest men are struck down.

Sometimes a man may go down to the stokehole in sound health, and yet in an hour or two is so overcome that he is unable to climb on deck again; straps have then to be fastened about his body, and he is hauled up with a rope. The men often remark that four hours down seem a longer time than twelve hours up. Firemen very frequently suffer from extremely severe cramps. The muscles so contract as to stand out like thick ropes. The men roar with pain, till their mates lay them down, and by the exercise of friction restore the contorted muscles to their normal condition. It is only the firemen who suffer from such cramps; sailors are exempt, though travelling on the same ship. Firemen, when attacked by cramps, cannot eat; they cannot retain food, but drink constantly and lose weight very rapidly. Knowing the importance of their duty, men sometimes persevere even when their mates urge them to knock off. At other times the doctor will order a fireman to be relieved from a watch, but the engineer then complains, so that the fireman has to resume his work in spite of the doctor's injunction. One fireman with whom we conversed told us that two of his shipmates died in the stokehole on one single journey. They had been ill, but still they thought they were strong enough to work. It seems as if the men were not easily able to judge their own powers of resistance. The heat overcomes them suddenly and unexpectedly.

When there is a strong breeze blowing, a good draught is created, which keeps the stokehole cool. But by the time the next watch comes in the wind perhaps has changed, the stokehole becomes oppressively hot, and the number of revolutions falls off. Then the engineer manifests all the symptoms of bad temper. He abuses the firemen, and to avoid reprimand they seek, by extra effort, to compensate the effects resulting from the unfavourable direction of the wind. Such extra strain in such unhealthy heat is naturally injurious. The heat at times is so great that the tools burn and the steps of the iron ladder leading to the deck are too hot to be held with the bare hand. The differences of temperature are most trying, amounting at times to as much as 35° F. Yet the firemen have to come on deck for several purposes. Sometimes they come up simply to breathe for a moment a little fresh air, or else they have to carry ashes and throw them into the shoot, or they have to fetch water. Some doctors insist that the firemen must change their clothes before they do anything on deck, a very necessary precaution to avoid chills.

When the fireman comes off duty he goes to his cabin and removes the clothes that are black with coal dust and soot, and saturated with perspiration. These foul-smelling clothes have to dry in the seventy-two cubic feet of space allotted to him, and naturally contribute very materially to pollute the atmosphere of the cabin. A sooty sort of grease, formed by the mixture of perspiration, smoke, and coal dust, is daubed on all sides of the cabin, and the firemen become so repulsive in their appearance that, on many ships, precautions are taken to prevent the passengers seeing them. The nature of their life must tend to degrade the men, and it is difficult to make persons accustomed to such an existence appreciate the virtue of cleanliness and understand its necessity for the preservation of health. Evidently there should be convenience provided for the firemen to wash and change their clothes, as they come off duty, in some place other than their sleeping berths. By this means alone would it be possible to keep the forecastle clean. The necessity of a changing room for gas stokers has long since been recognised, and the work of firemen on steamships is in many respects similar.

Better management is also necessary with regard to the meals. The meat is very generally brought in large pieces from the galley. Men make a rush for it, hack and cut it in a semi-savage and wasteful manner. The firemen who have been doing extra duty often miss a meal, no care being taken to preserve them any food. There ought to be a steward or some one whose special business it should be to see that the meat is properly carved, fair helpings apportioned to each, and thus avoid the unseemliness and the waste that result from a general scramble. All this discomfort, dirt, the terrible heat, and the overwork, soon occasion great nervous excitement and irritability. Men who by nature are not quarrelsome end by losing their tempers; disputes, and even fights ensue, and all this might be avoided if a little more care were taken to ensure reasonable comfort for the overwrought firemen. But, while matters remain as they are, we need not be surprised to hear that after six or seven years the fireman has to resign his occupation, is unfit for any more hard work, and goes to swell the great army of the unemployed who loiter about the docks in search of some light, if ill-paid, task.

Considering the deadly effect extra work may have upon his health, it is all important that the fireman should know with whom he is about to sail, and whether his fellow firemen are likely to be able to do their full share of duty. There is, unfortunately, a system in vogue by which incompetent hands are smuggled on board at the last moment. When the firemen see with whom they have to sail, they sometimes refuse to start with the ship. Then legal complications arise. Those who cannot afford to run the risk of abandoning the ship at the last moment, and these are generally the married men, have to bear throughout the voyage the brunt of the work. The incompetent hands fall ill, and those who are healthy become invalided because they have more than their share of work to do. Hence it is that the fireman's work may be considered the most unhealthy occupation afloat. Fortunately there are means of decreasing the evils which we have mentioned, and adequate measures will doubtless be adopted when once the attention of those concerned has been fully drawn to the subject.

NEW HOSPITAL FOR INFECTIOUS DISEASES AT BOLTON.—On the 10th inst. a new infectious diseases hospital for the accommodation of patients in the seventeen townships belonging to the Bolton Rural Sanitary Authority was opened by the chairman, Mr. John Wardle, to whom was presented an illuminated address and a gold key. The building has been erected at Rumworth at a cost of several thousand pounds

OVER ONE HUNDRED MEN POISONED AT A FREE TEA.

BY G. ELAND STEWART, L.R.C.P. LOND.

ON Wednesday evening, Sept. 10th, a tea was given by Miss White to 170 men employed in paving the Fulham-road with wood. The tea consisted of boiled beef, ham, and tea, and was partaken of freely, but the next morning more than 100 men were suffering from symptoms o irritant poisoning, which commenced with severe vomiting and diarrhœa, and great pains and tenderness in the epigastric and hypogastric regions, with much loss of power in the lower limbs. There was general tremor and the patellar reflexes were considerably exaggerated. The tongue was coated with a white moist fur, excepting that there were oval patches where the fur was absent. There was no headache, but occasional shooting pains in the head. There was no contraction, dilatation, or inequality of the pupils, but a mist appearing before the eyes was frequently complained of. There was much prostration, and in several cases alarming collapse. The pulse was quick and small, but there was no elevation of temperature. There was almost complete loss of appetite, and only certain kinds of liquid food were tolerated, other kinds causing immediate vomiting.

On the third and fourth days aching was complained of in the teeth and gums, and a number of ulcers appeared on the gums and on the inner surface of the lips and cheeks, and in some cases on the anterior pillars of the soft palate. In many of the cases there was a blue line on the edge of the gum, as in lead poisoning; but this only occurred in those who had tartar around their teeth. The teeth were also said to feel loose. The urine was high coloured, and in one case a cloudy precipitate was formed on the addition of nitric acid, which did not disappear on warming, and which was not formed by boiling alone. Underneath the precipitate was a deep brown line. There was a nasty taste in the mouth for days, which could not be got rid of, no matter what was taken. There are, I believe, no deaths up to the present.

My cases have been treated with ice and oatmeal water, and bismuth and opium internally, and hot fomentations to the abdomen. They are all doing well. Many of the men have returned to work, and only twenty are now absent, and it is believed most of these will return to-morrow (Thursday, the 18th).

It was stated by many of the patients that the boiled beef was wrong, and one man described it as "rotten." Several took home portions of it to their wives and families, and these have been seriously ill. The water-carrier boys, who had the bones given to them, have also been very ill. I have noticed that those who drank the most tea have been the most severely affected; but then perhaps they ate the most beef, or the poison, whatever it is, was more soluble in a larger quantity of fluid.

I append report of analysis of material vomited by a patient on September 10th:—

Report on Analysis of "Poisonous Fluid," from E. Stewart, Esq., L.R.C.P., Fulham, S.W.

The sample, consisting of ten fluid ounces of semi-fluid whitish matter, was ascertained to be a portion of vomited matter. The circumstances and symptoms indicated the presence of some irritant poison in some tea partaken of by a large number of individuals. Microscopic examination of the solid matter failed to bring to light any noteworthy fact. An inspection of the various vessels and utensils used in the preparation of the tea did not indicate any source of contamination. The vomit was, therefore, rigidly examined for the presence of poisonous metals. Lead, copper, mercury, tin, arsenic, antimony, zinc, and barium were particularly sought for, and no indication of a trace of any one of them was obtained. The poisonous acids and their salts, such as oxalates, cyanides, carbolates, &c., were also found to be absent. The commoner poisonous alkaloids were also tested for, with negative results. We have, therefore, to report that, in the vomit before us, there is no indication of the presence of any irritant poison. Unless it were possible to examine minutely both the separate actual ingredients in the "tea," and some of the identical fluid consumed, it is obviously impossible to account for the symptoms with any degree of certainty. WRIGHT, LAYMAN, and UMNEY.

The strange fact is that no more meat and fluid, similar to that taken by the men, is procurable, although it is stated a quantity was left. I myself believe the poison was contained in the boiled beef, that it was the product of decomposition, and that it may be a ptomaine.

I have just received an anonymous letter stating that a case of poisoning by bacon occurred in a house close by; that this bacon caused poisonous symptoms when given to a dog, and that had the case been investigated, the present would not have occurred. It is also requested that for the public good the case should be investigated, the name of the house being given.

THE REGISTRAR-GENERAL'S DECENNIAL REPORTS.

ALL students of vital statistics must have had more or less frequent occasion to use the well-known and invaluable Decennial Supplements to the Registrar-General's Annual Reports, which have been issued for the last three completed intercensal periods 1851–60, 1861–70, and 1871–80. Dispassionate critics will admit that each of these Decennial Supplements has exceeded its predecessor in value, mainly in consequence of the increased period of observation embraced by such report, and of the additional means for comparison thus afforded. Apart from this cause of increased value, however, all who are acquainted with the three volumes will readily admit that while Dr. Farr's report for the decennium 1861–70 far surpassed in value his report for the previous ten years 1851–60, so Dr. Ogle's report for the most recent period, 1871–80, in many respects compares favourably with the better of Dr. Farr's reports, especially in the able and elaborate treatment of what has been called occupational mortality. We have, however, on more than one occasion opened our columns to Mr. A. Haviland, well-known for his labours in connexion with the geographical distribution of disease, who, since the publication of the last Decennial Supplement, has been persistent in his condemnation of this last Decennial Supplement, on the ground that in consequence of changes in the form of its publication, compared with that of its predecessors, it deprived him of the means for pursuing his investigations concerning the geographical distribution of disease. As another intercensal period will be completed at the end of this year, and as the Decennial Supplement for the ten years 1881–90 will now before long be under preparation, it may be useful to consider the validity of the grounds of complaint urged by Mr. Haviland against the form in which the last Decennial Supplement was issued. The report for 1861–70 (as did that for 1851–60) contained a summary of the deaths during the period under notice from twenty-five groups of diseases at sixteen age-periods for each of the more than 600 registration districts, the facts for the males and for the females being shown in separate tables. These tables occupied no fewer than 420 pages of that report. Owing in great measure to the value and appreciation of Dr. Farr's reports, and to the coincident growth of public interest in health matters, the reports of the Registrar-General have in recent years been increasingly used for general sanitary purposes, not only by the Medical Department of the Local Government Board and by Medical Officers of Health, but by the public at large. When the preparation of the Decennial Report for 1871–80 came under discussion, it was decided that a table for persons should be given for each district, and it was also decided that it would be unnecessary to print the figures for males and females separately for each district. We understand that the main grounds for this decision were: (1) The practical necessity for giving the table for persons; (2) the desirability of keeping the volume within moderate limits; and (3) the doubtful value, from a general point of view, of sex distinction in full detail for such small areas as registration districts. It should be pointed out that in the last Decennial Report (1871–80) the District Tables for Persons, giving more information and calculated rates than had ever been given before, occupied 320 pages, and that to have given similar information for each of the sexes as well as for persons would have required 640 additional pages, and would have more than doubled the cost of the volume to the public. It is beyond doubt that for general purposes the separation of the sexes for districts is unnecessary, and it therefore remains for discussion whether on public grounds it would be justifiable to print 640 pages of elaborate tables, at a heavy cost, in order to facilitate special investigations such as those of Mr. Haviland, the interest of which would necessarily be of limited

extent. As is well known, the causes of death of males and of females in England and Wales are always separately abstracted for the purpose of the Registrar-General's reports, and of necessity at the end of each ten years the facts for the two sexes are separately tabulated. Hence the causes of deaths of males and females exist in manuscript for each district, otherwise the figures for larger areas could not have been published with distinction of sex, as is the case. Mr. Haviland, in a paper prepared for the late meeting of the British Association at Leeds, which was taken as read, once more specially complained of not being able to ascertain the deaths of males and of females from cancer and childbirth in districts for the ten years 1871–80. As regards cancer, the charge is well-founded, inasmuch as the report he complains of only gives the deaths of "persons" from that disease in each district. Mr. Haviland has not, however, so far as we are aware, proved the necessity of sex distinction in districts, for the investigation of the geographical distribution of cancer, more especially as the tables in question do not afford the means of eliminating the disturbing influence of hospital-deaths from this disease. With regard, however, to the deaths from childbirth, Mr. Haviland is singularly unhappy in his ground of complaint, since there can be no difficulty in attributing such deaths to the right sex, although they may appear in a table for "persons." Without attempting to decide upon the point at issue between Mr. Haviland on one side, and the Registrar-General and the Medical Department of the Local Government Board on the other, it appears to us to be a convenient time for discussing the merits of the question, and to afford an opportunity for the expression of opinion on the subject by those whose duties lead them to make most use of the Decennial Reports, in order that the arguments on both sides may be fully considered when the form of publication of the next of these valuable reports is under deliberation.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

The Sanitary State of the Sculcoates Rural District, by Dr. BARRY.—This report is a very exhaustive one; it deals at length with the sanitary state of a number of places within the rural district which abuts on Hull, and it enters into a number of questions affecting the sanitary administration of the district, which had previously been inspected for diphtheria and scarlet fever by two of the medical inspectors of the Local Government Board. Perhaps the main interest in the report centres in an epidemic of enteric fever, the mortality from which disease, as also that from diphtheria, largely exceeds that obtaining in England and Wales generally. The fever epidemic occurred in the latter half of 1889, and its occurrence in the parish of Sutton is especially referred to. In that place the disease was essentially confined to two terraces, each having its own well and pump, sunk in a garden formerly bounded by a ditch which had been part watercourse, part sewer, and the garden itself had been formed out of a farmyard. The privies were of the Hull pattern, but they failed to answer two of the principal requirements of this system, for they were sloppy, and some of their liquid contents oozed into the surrounding soil. When a sudden outbreak of enteric fever took place, it was found that whereas the milk service to the various affected houses differed, the water-supply was the same, and this supply was condemned on chemical analysis. As to specific pollution, this, too, became clear, for leakage was discovered from a privy into the well in question, and into this privy had been discharged the excreta of an enteric fever patient. In all, the community concerned consisted of 56 persons in 10 houses, and of these 23 persons in 7 houses had enteric fever. Three houses thus escaped. In two of these the medical officer of health's injunction always to boil the water had been observed, and in the third lived two old people over sixty years of age. The remainder of this Sutton outbreak was limited to a few individuals who lived away from the locality immediately affected. In one case a lad drank at the infected pump well on his way to work, and another was a servant who constantly visited the fever-stricken families on errands of charity. Dr. Barry makes a number of recommendations dealing with the sanitary state of the district, and the fact that he finds it necessary also to repeat recommendations made by his colleagues—Dr. Blaxall in 1877 and Dr. Airy in 1882—would serve to show that former advice has not been followed as it should have been.

On the Sanitary State of the Rawdon Urban District, by Dr. BARRY.—The story told in this report has no medical interest apart from the fact that certain medical considerations are necessarily involved in neglect of sanitary administration. For some years past complaint had been made as to the neglect of the Rawdon authority. Hence the inquiry made by Dr. Barry. It appears that in 1877 local complaints were made as to the sanitary state of Rawdon, then in the Wharfedale rural district, which ended in a proposal by the rural authority for a system of sewerage. On this, the township petitioned to be made an urban district, in order that they might "have control" over their own sewerage and over "the erection of new buildings;" a demand which finds its interpretation in a resolution of the vestry, which has apparently been ferreted out, to the effect that since "we are powerless in opposing the expensive drainage scheme" favoured by the then authority, it was best to ask to be made into a local board. Four years after, complaint came that the sewers had never been provided; then followed an inquiry and sanction to a loan for £8220 for a sewerage system. Again in 1887 complaint came that this money had never been used, and this ended in the authority satisfying a principal complainant by laying down one odd bit of a sewer. This one sewer is all that Dr. Barry found, the rest being cesspools or ditches &c., fouled by sewage. But, as already stated, the new local board formed in 1879 also wanted to control new buildings. Hence they prepared by-laws, or rather copied a code issued by the Local Government Board, and Dr. Barry sets out in two parallel columns some of the more important provisions of these by-laws and the actual state of things which he found, and which, shortly told, showed that not only were the by-laws indicated utterly neglected, but conditions were allowed to grow up which were absolutely opposed both to the spirit and the letter of the clauses. Several pages in the report set forth the sustained neglect in this respect. And, in the end, it is pointed out that the eleven years of local board administration for Rawdon, instead of having been of profit to the place, have, as matter of fact, been the reverse. Beyond maintaining the main roads, all practically that the local board has done has been to construct a sewer, as above stated, and to draw up a code of by-laws which have never been enforced. In 1883 formal complaint was made as to the default of this body; in 1887 another complaint was made; and now that the Local Government Board know, both from the resolution of the vestry meeting in 1878 and from actual experience extending over eleven years, that a body useless for sanitary work has been set up, they could hardly do better than hand Rawdon back to the rural authority whose desire to benefit the place led to the formation of a local board, constituted for the purposes indicated.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

South Shields Urban District.—The death-rate for this district during 1889 was, according to Dr. Campbell Munro, above the average, and this mainly owing to an excessive prevalence of diarrhœa and measles. The midden-privy system, with the abominations attaching to it, as so often carried out in northern districts, prevails, and with this the sanitary staff is grossly insufficient for the proper suppression of nuisances. But with all this the death-rate, which was 21·7 per 1000, is below that for the last decennium; and this even in the face of an infantile mortality higher than in any previous year of the present decennium. Diphtheria, too, during last year, furnished the highest rate of mortality on record, being 242 per 1,000,000, as opposed to 187 for England and Wales. In this respect South Shields unfortunately resembles many of the large towns and cities of England. But the fever death-rate has happily undergone much diminution, and this is one of the most satisfactory evidences of real sanitary reform. The district possesses an isolation hospital, which has become of real service. Last year forty-four cases were admitted, and a suggestion was made as to erecting a small-pox pavilion on the same site. But, after a local conference with Dr. Barry, it became evident that

the Local Government Board would not sanction any such structure in association with the existing buildings, in which other diseases were treated, and hence the proposal was abandoned, and the small-pox hospital will probably be erected in a remote part of the district. South Shields has not yet adopted the system of compulsory notification of infectious diseases, and Dr. Munro, who is evidently a strong advocate of the system, writes a forcible chapter, in which he deals with the various objections which have been locally raised to the adoption of that system. The general sanitary work is referred to in some detail, and the authority are reminded that so long as they remain principal offenders by reason of their manure depôt, it is very difficult for their officers to deal with individuals who offend on a small scale in a similar way. The report contains some excellent and useful tables and diagrams, and it has evidently been compiled with care.

Bollington Urban District.—With an annual death-rate of 16·7 per 1000 and a comparative freedom from infectious diseases, Mr. James Allen has no very striking circumstances to report. Several minor but useful improvements were carried out during the year, and the system of notification was adopted. But, as pointed out in the report, this system cannot be profitably utilised until it is supplemented by the provision of some means for isolating first attacks of infectious diseases.

Bridlington Urban District.—Mr. Wetwan devotes a large portion of his report for last year to statistical considerations, most of which are of local interest only. The general death-rate was 14·7 and the zymotic rate 0·7 per 1000 living. The report on the sanitary state of the district, and on sanitary work generally, is largely dealt with by the inspector of nuisances; but reference is made to the inspection of slaughter-houses, bake-houses, &c., by the medical officer. It is stated that some advance has been made as regards drainage. Attention is also called to the need for some adequate means of disinfection.

Leicester Urban District.—Leicester experienced last year its lowest recorded death-rate—namely, 16·7 per 1000, and those who have been acquainted with the excellent series of annual reports issued by Dr. Tomkins will endorse his view that the diminution of mortality which has taken place must be largely due to the improved measures of sanitation carried out. Amongst some of the most important recorded for last year are the continuance of sewerage and drainage works on a scale of considerable magnitude, the intended construction of a new reservoir for the town water-supply, to hold 500,000,000 gallons, the steady substitution of water-closets for pail-closets, and a decision to prevent any new erection or re-erection of courts. Then, again, great works have been carried on to prevent flooding, and to lower the subsoil water. Notification remains, it is maintained, a success, and in one case where no medical attendant was called in a parent was summoned and fined for failure to report. Diphtheria and scarlet fever were somewhat in excess, and hospital provision does not seem to have touched the latter disease to the extent that might have been hoped. Thus, the death-rate from scarlet fever for 1880–89 is practically the same as that for 1860–69, before isolation was resorted to; whereas it was much higher during 1870–79. This is shown diagrammatically; but the diagram shows also a steady decennial fall as regards both phthisis and enteric fever, a result doubtless due to maintained sanitary works. Dr. Tomkins gives a lengthened reference to Dr. Ballard's diarrhœa report, to which the Leicester experience and investigations materially contributed. He very rightly assails intra-urban slaughter-houses; and, having regard to the crowded and ill-ventilated condition of cow-houses in towns, he thinks it not unlikely that, as the result of the inquiries now being made as to bovine tuberculosis, these establishments will come to be much more strictly supervised than they have been heretofore. The infectious hospital, though by no means a perfect institution in point of structure, did good work in receiving 330 patients during the year. The report also contains other interesting matter, including a number of comparative statistics and a record of current sanitary work.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5703 births and 3462 deaths were registered during the week ending Sept. 13th. The annual rate of mortality in these towns, which had declined in the preceding three weeks from 21·0 to 19·0 per 1000, further fell last week to 18·6. The rate was 16·6 in London and 20·2 in the twenty-seven provincial towns. During the first eleven weeks of the current quarter the death-rate in the twenty-eight towns averaged 19·1 per 1000, and was 1·4 below the mean rate in the corresponding periods of the ten years 1880–89. The lowest rates in these towns last week were 13·2 in Bradford, 13·4 in Nottingham, 15·6 in Blackburn, and 15·9 in Bristol, to 23·3 in Preston, 23·5 in Sheffield, 25·4 in Manchester, and 27·8 in Plymouth. The deaths referred to the principal zymotic diseases, which had declined in the preceding three weeks from 999 to 726, further fell last week to 599; they included 316 from diarrhœa, 70 from measles, 68 from scarlet fever, 68 from whooping-cough, 47 from "fever" (principally enteric), 30 from diphtheria, and not one from small-pox. The lowest death-rates from these diseases were recorded in Halifax, Bristol, Huddersfield, and Bolton, and the highest in Birmingham, Sunderland, Manchester, and Preston. The greatest mortality from measles occurred in Birkenhead and Preston; from scarlet fever in Manchester, Sheffield, and Liverpool; from whooping-cough in Preston and Norwich; from "fever" in Birkenhead; and from diarrhœa in Manchester, Brighton, Sunderland, and Preston. The 30 deaths from diphtheria included 18 in London, 5 in Salford, and 3 in Manchester. No death from small-pox was registered in any of the twenty-eight towns. Only one small-pox patient was under treatment in the Metropolitan Asylum Hospitals at the end of the week, and not one in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 1539, against numbers increasing from 1427 to 1503 on the preceding three Saturdays; the new cases admitted during the week were 210, against numbers increasing from 118 to 206 in the previous five weeks. The deaths referred to diseases of the respiratory organs in London, which had been 184 and 180 in the preceding two weeks, rose again last week to 210, and exceeded the corrected average by 30. The causes of 67, or 1·9 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Norwich, Bradford, Leeds, and in seven other smaller towns. The largest proportions of uncertified deaths were recorded in Liverpool, Sheffield, Newcastle-upon-Tyne, and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 16·8 and 18·2 per 1000 in the preceding two weeks, declined again to 17·8 in the week ending Sept. 13th, and was 0·8 below the rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 7·9 in Greenock and 13·0 in Aberdeen to 19·6 in Paisley and 21·2 in Glasgow. The 463 deaths in the eight towns showed a decline of 7 from the number in the previous week, and included 26 which were referred to diarrhœa, 25 to whooping-cough, 8 to measles, 8 to "fever," 8 to diphtheria, 5 to scarlet fever, and not one to small-pox. In all, 80 deaths resulted from these principal zymotic diseases, against 65 and 77 in the preceding two weeks. These 80 deaths were equal to an annual rate of 3·1 per 1000, which was slightly below the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had declined in the preceding three weeks from 40 to 18, rose again last week to 26, of which 14 occurred in Glasgow and 4 in Edinburgh. The fatal cases of whooping-cough, which had been 14 and 23 in the previous two weeks, further rose to 25 last week, and included 14 in Glasgow, 4 in Edinburgh, and 3 in Dundee. The 8 deaths from diphtheria exceeded by 4 the number in the preceding week; 3 occurred in Glasgow and 3 in Edinburgh. The 8 fatal cases of "fever" corresponded with the number in the previous week, and included 3 in Glasgow, where 4 of the 8 deaths from measles and 3 of the 5 deaths from scarlet fever were also recorded. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 56 and 77 in the preceding two weeks, further rose last week to 84, and exceeded the number in the corresponding week of last year by 23. The causes of 35, or nearly 8 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·8 and 19·2 per 1000 in the preceding two weeks, further declined to 17·3 during the week ending Sept. 13th. During the past twelve weeks of the current quarter the death-rate in the city averaged 20·2 per 1000, the rate for the same period being 18·4 in London and 16·6 in Edinburgh. The 117 deaths in Dublin showed a decline of 13 from the number in the previous week; they included 11 which resulted from diarrhœa, 2 from "fever," 1 from measles, 1 from whooping-cough, and not one either from small-pox, scarlet fever, or diphtheria. Thus the deaths referred to the principal zymotic diseases, which had been 22 and 11 in the preceding two weeks, rose again last week to 15; they were equal to an annual rate of 2·2 per 1000, the rate from the same diseases being 2·9 in London and 2·7 in Edinburgh. The deaths from diarrhœa, which had been 13 and 6 in the previous two weeks, rose again last week to 11. The fatal cases of whooping-cough, which had been 3 and 4 in the previous two weeks, declined again last week to 1. The 117 deaths in Dublin included 27 of infants under one year of age, and 29 of persons aged upwards of sixty years; the deaths of infants showed a slight increase, while those of elderly persons were fewer than those recorded in any recent week. Five inquest cases and 4 deaths from violence were registered during the week; and 32, or more than a fourth, of the deaths occurred in public institutions. The causes of 13, or more than 11 per cent., of the deaths were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.—Surgeon William Henry P. Lewis, from the Seconded List, to be Surgeon (dated Sept. 4th, 1890).

MADRAS MEDICAL ESTABLISHMENT.—Brigade Surgeon Alexander Porter, M.D., to be Deputy Surgeon-General (dated July 25th, 1890).

INDIAN ARMY.—The Queen has approved of the retirement from the Service of Brigade Surgeon John Martin Coates, M.D., Bengal Medical Establishment (dated July 6th, 1890).

ADMIRALTY.—The following appointments have been made:—Staff Surgeon Samuel Keays to the *Briton* (dated Sept. 28th, 1890). Surgeons George Allan and Richard Barnard to the *Vivid*, for the Royal Naval Barracks (both dated Sept. 15th, 1890).

VOLUNTEER CORPS.—*Artillery:* 1st Norfolk (Eastern Division, Royal Artillery): Acting Surgeon T. J. Compton to be Surgeon (dated Sept. 13th, 1890).—1st Gloucestershire: Acting Surgeons J. S. Carleton and J. H. Wathen to be Surgeons (both dated Sept. 13th, 1890).—6th Lancashire: Acting Surgeon J. B. Oliver to be Surgeon (dated Sept. 13th, 1890).

Correspondence.

"Audi alteram partem."

"A GRAVE NOVELTY IN LICENSING."

To the Editors of THE LANCET.

SIRS,—I can scarcely presume that you are ignorant that by the Wine and Beerhouse Act, 1869, and with reference to the provisions of 9 Geo. IV., chap. 61, "no application for a certificate under this Act in respect of a licence to sell by retail beer, cider, or wine, not to be consumed on the premises, shall be refused except upon one or more of the following grounds: 1. That the applicant has failed to produce evidence of good character. 2. That the house or the locality of the house is of a disorderly character, or frequented by thieves, prostitutes, or persons of bad character. 3. That the applicant having previously held any licence has forfeited it by misconduct, or has been previously disqualified. 4. That the applicant's house is not duly qualified as to rental," &c.

Now the Excise say that these beef and malt wines, and even quinine wines that do not contain a grain of quinine to the ounce, shall not be sold without such licence as above; but make the proviso that any chemist who is licensed to sell methylated spirit cannot also have an "off" licence to sell these wines. With regard to the question you raise of chemists selling brandy and beer, you see there is not any option so far as beer is concerned, if license is applied for subject to the four points. No one was more astonished than I when the first application was made to me for one of these licences, but there is really no alternative.

If we are to look forward to any revising, amending, or codifying of the licensing law, than which no body of law requires all these three processes more, it must be by educating everyone on lines quite apart from faddism and confiscation, and with a desire to largely limit facilities which are now from various causes outside the power of the authorities. If this revising, amending, and codifying could be dissociated by mutual consent of parties from political complications, I doubt not but that the cause of true temperance would gain largely, and the process of education in moderation of all kinds be greatly forwarded.

I am, Sirs, your obedient servant,

FRED. ED. MANBY, F.R.C.S. Eng.,
Sept. 16th, 1890. Deputy Mayor of Wolverhampton.

"A MEDICAL MAN CENSURED BY A CORONER'S JURY."

To the Editors of THE LANCET.

SIRS,—I have heard that any crime may be committed with moral impunity if it has the sanction of the cause of liberty, any baneful superstition may be indulged with applause under the shield of religion, and any imputation allowed on the character and conduct of a man if it can only be made under the pretext of the cause of humanity.

That the last of these conceptions should find expression in the verdict of a coroner's jury is an experience familiar to everybody acquainted with the miraculous deliverances of that tribunal, but that the same sentiment should find an echo in what is presumed to be the cultured intelligence of a professional organ is not, I think, so perfectly intelligible.

In the annotation in which you discuss the subject that stands at the head of this letter you enunciate a doctrine which is, so far as it applies to me, equivalent to this: that I, finding myself confronted with the alternative of treating a case of puerperal peritonitis in circumstances in which I had come under an obligation not to treat it, and passing it over to the charge of the Poor-law medical officer, was bound to treat it. And this doctrine you support on the basis of "professional responsibility and humanity." I think your view of the nature of professional responsibility and humanity extremely curious. Are what you deem professional responsibility and humanity to be reckoned paramount in their obligation to the sentiment of fidelity to one's word, to the need of discharging your trust in the terms of its contract—to the force, in a word, of truth and justice? Such a conception is, in my opinion, a travesty alike of common sense and common honesty, and when made the basis of a grave imputation on character and conduct comes perilously near being simply disgraceful.

I am, Sirs, yours obediently,

Tunbridge Wells, Sept. 17th, 1890. F. S. CONNAN.

To the Editors of THE LANCET.

SIRS,—Kindly allow me space to say that I think your remarks in the above case about Mr. Connan unfair. The patient, Mrs. Camfield, was not able to pay the fee settled by the Tunbridge Wells Club to Mr. Connan, and, in my opinion, the case became one for parish relief. It seems the husband obtained the necessary order for Dr. Starling to attend, and he, in not doing so, I think, was most deserving of censure. Had the jury who returned the verdict censuring Mr. Connan for not acting charitably been put to the test by being asked to put their hands in their pockets to pay the doctor's fee, I wonder how many would have been ready to do so. There is no class who, according to their means, act more generously to their fellow creatures than the medical profession, and when they object to exercise their charity, why should they be censured more than other mortals? If Mr. Connan had attended the woman Camfield, I am afraid in the future he might have had occasion to repeat his charity, for many other members of the above club would have taken such an

attendance as a precedent, and only have sought his attendance when a case was really urgent. This is, indeed, the only public recognition we get for our charity; the more we exercise it the more we are obliged to, or else stand the chance of being called inhumane by a coroner's jury.

The remuneration of the profession generally now is most inadequate, and the work such that the ordinary medical man is never at rest night or day. I think, therefore, the professional journals should do everything in their power consistent with fairness to uphold him.

I am, Sirs, yours truly,

September, 1890. JUSTICE.

*** We insert the above letters. It cannot be too well known that society generally and its various associations throw jauntily on the medical profession the weight of dealing with urgent diseases of the poor, with little praise when they do their beneficent work and plenty of abuse if they fail. We are still of opinion that Mr. Connan should have continued his attendance on the patient he saw, at least until the Poor-law medical officer was in full charge. But for such a case to fall between the two stools of a provident association and the parish was a sad miscarriage of benevolence. It is no reply to say that the censuring jury would not have put their hands into their pockets to pay the doctor's fees. So much the worse for the jury. Perhaps if they had seen the patient, which is the case of the medical man, they would have been moved to this effect. Whether or not, medical men must be guided by their own deep lights and by the traditions of the profession.—ED. L.

SUSPENSION IN LOCOMOTOR ATAXY.

To the Editors of THE LANCET.

SIRS,—In THE LANCET for August 9th, 1890, an article appeared on the above subject, in which the opinion is expressed that before long the suspension apparatus will be relegated to obscurity, along with Perkin's metallic tractors of a past generation &c. It is also stated that Rosenbaum recently brought before the Berlin Medical Society the result of the treatment of 85 cases treated in Mendel's clinique, with improvement in 25 only.

Now, if this latter statement were strictly accurate, it would yet show improvement in 29 per cent. of the cases of a malady which is acknowledged to be most intractable; and this could hardly be considered a very bad result. It appears, however, from Rosenbaum's paper, which is published *in extenso* in the *Deutsche Medicinische Wochenschrift* for Sept. 13th, 1890, that the treatment had had a fair trial only in 61 cases of locomotor ataxy, as, out of the 85 treated altogether, 9 patients were suffering from other diseases, and 15 affected with tabes were only treated for such a short time that their cases could not be utilised. Out of these 61 cases 25 were improved, which gives the higher rate of 40 per cent., and this is probably as good as that obtained by any other mode of treatment of tabes taken by itself. In all these cases no medicine was given, so that the objection of your reviewer, "that a number of the cases reported appeared to have been actively treated by drugs such as iodide of potassium whilst undergoing suspension," does certainly not apply to the practice of Mendel. The opinion of your reviewer "that the improvement observed is in the main due to the mental effect produced by the novelty of the method and the imposing apparatus employed"—an opinion previously expressed by Hanshalter and Adam of Nancy—is not shared by Rosenbaum, who states that the effects of suggestion may have been called into play at Nancy, but were certainly not so at Berlin. It is notorious that in the latter city the population, and more especially those strata of it which furnish the hospital patients, have always been remarkable for a highly developed critical faculty, which would not be favourable for suggestion being particularly active there. In connexion with this I may draw your readers' attention to a paper on the same subject by Dr. Allan Maclane Hamilton, which appears in the *New York Medical Record* for Aug. 30th, 1890, and in which the conclusion is expressed that the suspension treatment "certainly effects decided amelioration of all the symptoms of tabes, excepting the lost knee-jerk and ocular degeneration." Dr. Hamilton gives the details of five well-marked cases of tabes in which decided improvement was caused by this treatment. In these cases likewise no medicine had been given. Suspension will probably survive the destructive criticism which has been directed against it.

I am, Sirs, yours faithfully,

Harley-street, September, 1890. JULIUS ALTHAUS, M.D.

PICROTOXIN AND ITS USES.

To the Editors of THE LANCET.

SIRS,—The recommendation of picrotoxin for admission into the forthcoming Addendum to the British Pharmacopœia has once more directed attention to a useful but much-neglected remedy. Although isolated by Boullay as far back as 1812—six years before the discovery of strychnine,—it has of late failed to maintain its position as a therapeutic agent, its name not appearing once in the indexes to the volumes of THE LANCET for the last ten years. It is official in the United States and in the French Pharmacopœias, but not in the others. As it is not an alkaloid, it will presumably be introduced into our Pharmacopœia under the name of picrotoxinum, in accordance with the system of nomenclature adopted in the case of other neutral principles, such as elaterinum, santoninum, and salicinum. It will probably be defined as a neutral principle prepared from the seeds of anamirta paniculata, the cocculus indicus plant. It has been found that cocculus Plukenetii and cocculus lacunosus contain the same principle, but it is hardly likely that they will be recognised as official sources. Whether the cocculus indicus seeds themselves—the old coccole di Levante—will be introduced into the Pharmacopœia remains to be seen.

It is somewhat doubtful whether picrotoxin is or is not a simple body. Barth and Kretschy assert that it is a mixture of three different substances, which they name "picrotoxin" (a bitter poisonous principle), "picrotin" (a bitter non-poisonous principle), and "anamirtin." Paternò and Oglialoro question the correctness of these statements, and assert that "picrotoxin" and "picrotin" are merely decomposition products. They object strenuously to the new use of the term "picrotoxin," and rename the picrotoxin of Barth and Kretschy "picrotoxinin," to distinguish it from the true picrotoxin contained naturally in cocculus indicus. They also take objection to the "picrotin," which they believe to be identical with a substance named by them "hydrate of picrotoxide." As to anamirtin, they simply deny its existence in pure picrotoxin, and state that it is never found when the drug is purified by repeated crystallisation. Schmidt and Löwenhardt confirm [illegible] observations of Paternò and Oglialoro, but they have [illegible] what complicated matters by discovering a new active principle which they provisionally name "cocculin." Their opponents, however, are disinclined to admit the validity of their claims, and assert that cocculin is only anamirtin under another name. Whether picrotoxin is or is not a simple substance is a matter of very little importance from a purely pharmacopœial point of view, for it is well known that digitalin, which was at one time official, was composed of quite a collection of neutral principles. Moreover, atropine, like the other mydriatic alkaloids, is not a simple body, but can be resolved into tropine and tropic acid.

Picrotoxin has well-marked physical characters, and is usually met with in the form of colourless feathery crystals having an intensely bitter taste. It is soluble in water in the proportion of 1 in 240 at a temperature of 60° F., but the solution is not stable, for when the temperature falls below 40° nearly half of it crystallises out. It is much more readily soluble in a mixture of acetic acid and water, and it is to be hoped that a liquor picrotoxini made with acetic acid will be rendered official. Picrotoxin does not form salts, and it is the picrotoxin itself which is employed.

Fortunately, the pharmacological action of picrotoxin has been thoroughly worked out, and we deal with a substance having a very definite physiological action. The peculiar convulsions produced by it in the lower animals were accurately described by Glover more than forty years ago. They differ essentially from the tetanic condition caused by strychnine, and are due to stimulation of the motor centres in the cerebrum, or in the medulla and cord.

It is a curious fact that most of our writers on therapeutics are silent on the subject of picrotoxin. Wood, for example, does not mention it, and Ringer refers to it only

incidentally. Bartholow gives a good summary of its uses, but the most exhaustive account is to be found in Phillips' well-known "Vegetable Kingdom." Planat and Hammond recommended it in epilepsy, and Gubler proposed its use in chorea. Phillips lays down definite rules for its employment in various complaints—notably in certain forms of dyspepsia, megrim, and dysmenorrhœa. Externally, it is used in the form of a pigment or paint as a parasiticide. I have employed it largely in doses of $\frac{1}{60}$th of a grain in the treatment of the night sweating of phthisis, for which it is an excellent remedy. It probably acts as an anhidrotic by stimulating the respiratory centre.

There seems to be some difference of opinion as to the dose; in a well-known Dictionary of Medicine it was stated to be $\frac{1}{4}$th of a grain, but this was subsequently corrected and was obviously a misprint. I believe the correct dose is from $\frac{1}{120}$th to $\frac{1}{60}$th of a grain. In the Pharmacopœia of the Westminster Hospital we have a pill containing $\frac{1}{60}$th of a grain made with sugar of milk and glycerine of tragacanth, and I have never given more than two of these three times a day. Crichton Browne finds that in rabbits the toxic dose is $\frac{1}{30}$th of a grain to the pound, and in guinea-pigs about $\frac{1}{15}$th of a grain to the pound. There are very few cases of poisoning on record. Many years ago several men suffered severely from drinking rum impregnated with cocculus indicus, and one of them died. In another case, a boy aged twelve died from swallowing forty grains of a fish poison containing cocculus indicus, but the strength of the preparation was not known. There might possibly be some difficulty in detecting with certainty the presence of picrotoxin in the dead body, for Giacomelli has described a ptomaine closely resembling it both in physical characters and chemical reactions. The pharmacological actions would probably serve to differentiate them. Picrotoxin is allied to cicutoxin—the active principle of the water-hemlock—and to coriamyrtin, derived from coriaria myrtifolia. These drugs stimulate the origins of the inhibitory fibres of the vagus, the vascular and respiratory centres, and the motor areas of the medulla oblongata. In its action on the secretions, picrotoxin is allied to pilocarpine and muscarine, and is antagonised by atropine and members of that group. The best antidote to picrotoxin is chloral hydrate.—I am, Sirs, your obedient servant,

WILLIAM MURRELL,
Lecturer on Pharmacology at the Westminster Hospital.

Weymouth-street, Sept. 15th, 1890.

"INTERNATIONAL CONSUMPTION OF MEAT."

To the Editors of THE LANCET.

SIRS,—Dr. Yorke-Davies's remarks are interesting. Last year Dr. G. Herschell, writing on a diet of lean meat, raised a momentous question. You were good enough to publish my reply, which I hoped would have the effect of raising an interesting discussion and eliciting from some of our well-known physiologists an alteration of their views. I most emphatically venture to point out that the rules of diet laid down by the late Professor Parkes, Sir Lyon Playfair, and others require to be altered; in fact, they are entirely misleading and out of date. From an experience of over 400 cases of obesity I have had under my care, many of them extremely weighty and bulky, I confidently assert that a pure nitrogenous diet, largely diluted, is not only safe, but beneficial in all ways. Dr. Yorke-Davies was the first to say my diet was fraught with extreme danger and Spartan in the extreme. Well, I am glad to say that he has entirely changed his views, practises my system almost verbatim, and is therefore beginning to get some good results, upon which I congratulate him heartily. When I began the treatment of obesity I thought to lay down a set of diet rules that would suit everyone. I soon found out my error. A 20 st. man or woman requires longer and more vigorous treatment than those of more moderate weight. Every week I have something new to learn, and so regulate my diet to suit each individual case. Age, family history, state of general health, all have to be carefully weighed and considered. A lady aged thirty-nine, weight 16 st. 4 lb., and abdominal girth 49 in., in good health, excepting heart and lungs overtaxed, began treatment on Aug. 20th. I saw her on the 28th. She lost in weight 9¾ lb. and 7 in. in girth, and expressed herself as being better and able to get about, and felt her health greatly improved. I do trust that some competent physiologist will ventilate in your journal Dr. Herschell's query. For my own part, I endorse Dr. Yorke-Davies's remarks. Apologising for taking up so much space,

I am, Sirs, yours obediently,
W. TOWERS SMITH.

Devonshire-street, W., Sept. 2nd, 1890.

To the Editors of THE LANCET.

SIRS,—Your correspondent, Mr. Henderson, has to go a long way back—to the time of the ancient Greeks and Romans—for theories to controvert what he is pleased to call my *illogical* letter, and he confesses his ignorance of the dietetics even of those nations with whose prowess he is so familiar. As far as my knowledge of their history goes, I always understood that their conquests were celebrated by feasts, and Heliogabalus was such a gourmand in the way of flesh food that his favourite dish consisted of peacock's brains and other epicurean delicacies. In the period of their decline, for aught I know, and I think it is quite likely, they may have taken to "porridge" which Mr. Henderson eulogises so highly. I wish Mr. Henderson would bring a few facts forward to controvert my argument. If he could prove that nitrogenous food makes people fat and heavy, and that the Chinese who do not eat any flesh food are more energetic and brave than the English people who do, or that those Brahmins who live *entirely* on vegetable food become so obese and stupid as to be a by-word, I should almost believe he was right in his contention.

If sex even can be altered by food, as in the case of the queen bee, surely it is not impossible that food may have much to do with the deterioration of certain races. I do not imagine that even your correspondent will argue that the climate or soil of Greece or Italy has altered within the last two thousand years. Then why has the race deteriorated?

"'Tis Greece, but living Greece no more."

The solution is most likely to be found in their dietetics, for I imagine no one will argue that the Greeks with whom Alexander overran the world, or that the Romans whom Cæsar so often led to victory, resemble the Greeks and Romans of the present day. Bears, lions, and other wild animals become comparatively tame if fed on farinaceous foods, and I question if the athlete would be as well developed if he lived on pap and stewed apples.

Pavy, in his work on Dietetics, illustrates the truth of my argument that flesh food gives more energy than farinaceous when he instances the case of the English and French navvies. During the construction of a railway in France it was found that an English navvy did a third more work a day than his French brother. Inquiry elicited the fact that the Englishman ate more meat and the Frenchman more haricots and vegetable food. They were both put on the same rations, and the irregularity vanished.

The great evil, as I pointed out in my former letter, of *excess* in farinaceous food is the difficulty of eliminating it, and its proneness to remain in the system stored as fat and other products of retrograde metamorphosis. Your correspondent makes light of this; but it is no laughing matter to tens of thousands to whom it makes life a burden. I rejoice to think that in lean meat, with a little ballast in the way of vegetables tolerably free from starch and sugar, we have a means of quickly getting rid of this too common encumbrance, and at the same time gaining in energy, comfort, and length of life. I presume Mr. Henderson will not deny that farinaceous food is more prone to induce obesity than meat food, and that an obese person is not as energetic and active as a lean one, and that carrying from two to ten stone more than is necessary of adipose tissue does not tend to make a man more robust, mentally or bodily.

Until your correspondent tells us what the "other more important factors which contribute towards the formation of racial characteristics" are, I fear I shall still go on believing in Pavy, history, common sense, facts, and daily observation, rather than in the crude theories and "porridge" of Mr. Henderson.—I am, Sirs, yours faithfully,

N. E. YORKE-DAVIES.

Sherborne, Sept. 14th, 1890.

THE VALUE OF THE DIAZO REACTION.

To the Editors of THE LANCET.

SIRS,—In your issue of Aug. 23rd is a synopsis of cases in which Dr. Rütimeyer tested the urines for the so-called diazo reaction (with sulphanilic acid and sodic nitrite). When house physician at St. Bartholomew's Hospital this

year and last, I tested many urines for this reaction, acting on a paper in THE LANCET, which appeared in March, 1889, by a house physician of Dr. Sansom's (whose name I unfortunately forget) under the name of "Ehrlich's reaction." In that paper it was endeavoured to show that the reaction could be utilised to distinguish typhoid fever from acute tuberculosis, which is so often difficult. The results I obtained were that in typhoid fever one got the colouration and the characteristic pink froth (which seems a very definite part of the reaction) well marked up to the beginning of the third week, when it usually began to fade, and was rarely found after about the eighteenth day. I certainly did not get it as well marked in any tubercular case as Dr. Rütimeyer seems to have done, and rarely got more than a slight darkening in the colour, and no signs of a pink froth. That the reaction is not due to mere high temperature is shown by the fact that it was not obtained in any case of pneumonia, even with temperature ranging from 102° to 105°. Some of the best marked reactions obtained were from cases of measles in which it was very well shown until the rash had faded—also in a case of erysipelas it appeared strongly. I failed to get any reaction in cases of diabetes mellitus or insipidus, diphtheria, rheumatism with pericarditis, acute nephritis, and in cases of late typhoid—i.e., during the fourth week. One hardly knows enough of this test as yet for it to take a definite place in diagnosis, but in one or two cases I saw, where it was hard to say whether typhoid fever were present or not, the non-appearance of the test was verified by pneumonia declaring itself on the seventh day.

It would certainly be interesting to hear from others their experiences of this test, especially as distinguishing typhoid and tubercular cases.—I am, Sirs, yours obediently,

H. ERNEST KNIGHT, M.B.Lond.

Stockton-on-Tees, Aug. 30th, 1890.

THE LONDON HOSPITAL NURSES.

To the Editors of THE LANCET.

SIRS,—In your temperately worded and generally judicious annotation on the London Hospital nurses you express regret that some of the representatives of the hospital have denounced the attack upon the present system as "an organised opposition to the work of the hospital." You urge that moderation of language should be studiously observed by those who argue on either side of the question. Permit one who has publicly expressed no opinion whatever on the matter, but who has had very close opportunities of observation, to urge as some justification of the words uttered by the speaker (of whose personality he is quite unaware) that he has been informed on the highest authority that the expression of one of those who have attacked the administration was that he would do all in his power to ruin the hospital. In common with some others I have adopted the policy of silence—at least until the report of the House of Lords' Committee shall have been issued; but I think it right to say that in my own opinion the existence of an organised attack upon the hospital administration has been already sufficiently proved.

I am, Sirs, yours obediently,

A MEMBER OF THE MEDICAL STAFF OF THE HOSPITAL.

London, Sept. 13th, 1890.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Cremation.

THE first meeting of the shareholders in the Manchester Crematorium Company has recently been held. After much consideration and delay the formation of a company has been adopted as the best method of attaining the objects of those who advocate cremation, and not with any view to make it a successful commercial enterprise. It was announced that £6000 would be required to erect and equip a crematorium in the manner desired, of which £3000 had been obtained. A site of land can be had adjoining the Southern Cemetery. Plans are being got out for the buildings, which will consist of a hall or chapel containing the furnace, with open columbaria for the reception of urns and memorial tablets. The construction of the furnace will be a modification of that now in use at Zurich.

Scuttling.

Manchester is becoming notorious for a form of street ruffianism known locally as "scuttling." It consists of gangs of youths going about certain districts ostensibly to fight with similar gangs of adjacent districts; belts, straps with buckles, stones, and even more dangerous weapons, being at times used. Of late these gangs have not confined themselves to attacking each other, but have dangerously assaulted passers by, and at the last sessions some heavy sentences were passed by the Recorder. Since then a special meeting of the city magistrates has been held, with the result that a deputation is to wait upon Mr. Matthews, the Home Secretary, asking him to obtain powers to flog such offenders. This proposal has been the subject of much adverse criticism, and it is suggested that if the authorities would provide for our younger population better homes, more facilities and inducements for healthy physical exercise as a counter attraction to the street and worse, they would be more likely to effect a real reformation in our street "boy-roughs."

Fever Hospital Extension.

It was noted in these columns that the Infirmary board are about to make considerable extensions to the Fever Hospital at Monsall. This hospital is situate outside the city and within the township of Newton Heath. The Local Board for that district have made strenuous protest to any further extensions there, and refuse to sanction the plans for the same. They say it is unfair to the residents of Newton Heath that all the infectious disease of the city and suburbs should be brought to their doors, and the support of the inhabitants was asked in resisting this continual extension of a large fever and small-pox hospital. This protest will probably end as former ones have done, and the buildings will be erected.

Unhealthy Dwellings.

Both in the Manchester and the Salford Councils steps were at their last meetings taken for dealing with some of the worst of the unhealthy dwellings of which we at present hear so much. In most people's opinion this action comes very late in the day, but even now opponents to any such action were not wanting in either council. Compared with what really wants doing, these first steps are but as a drop in the bucket. A vast amount requires to be done before the poorer districts can be made reasonably comfortable and healthy.

Want of Hospital Accommodation in Blackpool.

Of all the northern holiday resorts, probably Blackpool is the one most favoured by the Lancashire tripper. The need for the establishment of a small hospital there has lately had a sad illustration. A poor man, terribly hurt and mangled at the station, had to be conveyed all the way to Preston, being the nearest place where a hospital existed for any kind of emergency. He died shortly after arrival there.

Death of Mr. Alfred Blackmore.

The Manchester and Salford Lock Hospital has, by the sudden and unexpected death of Mr. Alfred Blackmore, been deprived of one of the members of its staff. Mr. Blackmore has been connected with this hospital for some ten years, and his father was there before him for upwards of thirty years. He will be much missed, as he took an active interest in the work and conduct of this hospital.

The Manchester Health Problem.

Under the above heading a long article appeared in *The Times* of Sept. 10th on the high mortality of this city, and on the same date a leader appeared commenting thereon. It is perhaps well that public opinion, and especially local public opinion, should be educated upon this subject, and evidence has of late been forthcoming that those who represent the public in the City Council Chamber are really about to grapple with this problem. Unquestionably Manchester has a high death-rate, and the causes thereof are not unknown. So long ago as 1844 Sir Lyon Playfair issued an exhaustive report upon it; in 1883 Sir Edwin Chadwick again directed public attention to the "Sanitary Administration of Manchester and its Results"; in the same year Dr. Samelson brought prominently before a large meeting an able paper dealing with "The Dwellings and the Death-rate of Manchester," and

since that time many other well-known sanitarians have addressed themselves to the study of the same subjects, so that it is not for lack of information that so little progress has hitherto been made. Not but what some improvement has been effected during the last twenty years; zymotic disease, although still sufficient in amount to require all the energies of our local health authorities to deal with, has diminished very much; typhus especially has almost become extinct, and at present the high death-rate is largely made up by an excess of infantile deaths and diseases of respiratory organs. But without attempting in the least to defend the high mortality of Manchester, it may fairly be urged that Manchester as a city is almost unique in the constitution of its resident population. Until the recent extensions of the city boundaries, the municipality of Manchester had a population largely composed of the poorest and lowest classes. Its 370,000 inhabitants had not a fair proportion of the well-to-do classes to average its death-rate. The blocks of handsome shops and warehouses are for the most part free from inhabitants at night, the workers therein going largely to live in the adjacent suburbs. So that to compare Manchester fairly with other large communities, the central parts only of Liverpool, Birmingham, and Sheffield, or the poorer districts of London, ought to be taken. Now that Manchester has taken in most of the outlying districts, its death-rate will, to outsiders and those who are not familiar with the districts, apparently rapidly diminish, and yet the actual death-rate of the old city be unaffected. At the root of this excess of mortality are these overcrowded, pent-up, squalid districts, houses old and sodden with the filth of generations, ignorance and carelessness in the uprearing of the infantile population of these districts, together with a general deterioration of the stamina and physical development of the dwellers there—squalid homes, drink, and vice reacting the one on the other. The questions of disposal of excreta and ashpit refuse &c. are but minor factors in the problem. The present system of removal by pails is a gain without doubt on the old cesspits, but few of those who have carefully examined and watched the operation of the present system will be inclined to advocate its continuance, and as soon as the new sewerage scheme shall be completed the sewers will doubtless receive the greater part of the night soil of these districts, to the improvement of the comfort and decency of our poorer population. The one thing that will strike at the root of the matter more than all others is the movement now in progress for demolishing old rookeries and replacing them with decent, comfortable homes. It is of no use to ask who is to blame for the present condition of these homes; yet in one thing Manchester's municipal authorities have without doubt been at fault—i.e., the scandalously lax condition of their building by-laws, which until quite recently have permitted the jerry builder to work his own sweet will in thousands of cottages erected during the last decade. But this is now amended, and though the work must necessarily be slow and costly, a beginning has been made to bring about an improvement.

Manchester, Sept. 16th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Hebburn Infirmary Scheme.

IN reference to the projected infirmary for Hebburn-on-Tyne, mentioned in previous notes, the committee lately reported that they had received quite sufficient support from the important employers of labour in the district to persevere, and had also fixed on a site to be recommended at a public meeting to be held shortly.

Proposed Honour to a Durham Surgeon.

At Durham city it is proposed to honour Mr. Alderman Boyd, J.P., a member of the medical profession, who has been mayor of the city four times. Alderman Boyd has been an active practitioner for many years, and also surgeon to Her Majesty's prisons and a pioneer in the matter of sanitary reform. Now that he has in some measure retired, his fellow-citizens have decided to present his portrait to the corporation, to be placed in the Town Hall as a testimony to the services he has rendered his native city.

Death of the Widow of the late Dr. Aitchison.

Mrs. Aitchison, of Wallsend, died at her family residence on Sept. 1st. She was the widow of Dr. James Aitchison, for many years a well-known practitioner in the district. Mrs. Aitchison, who was well known on the Tyne, was the mother of a large family of grown-up sons and daughters. Four of her sons entered the profession and became fully qualified. Her remains were followed to the grave by many practitioners from Newcastle and district.

Sunderland Infirmary.

The following handsome contributions have been given towards the reduction of the debt on the Sunderland Infirmary:—Mr. S. Backhouse, £200; Miss Backhouse, £200; Mr. T. W. Backhouse, £200; Mr. Arthur Backhouse, £200. Alderman Preston, who has taken this work up, has also collected a considerable amount in smaller sums.

Sunderland Friendly Societies' Demonstration.

A very effective demonstration of the Friendly Societies of Sunderland took place on Sept. 6th in aid of the infirmary and other charitable institutions of the town. About 1000 joined in the procession, and an immense meeting was held in the theatre. The Mayor, Bishop Sandford, and other prominent speakers addressed the assembly, and the collection taken in the town and at the meeting is stated as the largest ever raised on a similar occasion.

"Botanic Beer" and Lead Poisoning.

An inquest was lately held at Blyth upon a man aged thirty-four, who was described as a herbalist. It was shown that he and his wife had suffered from lead poisoning, and likewise two of his children, all of whom were in the habit of drinking this botanic beer (so-called), while a servant in the family who did not use the beer escaped. It was shown in the medical evidence that there were about forty feet of lead piping, and this was encrusted with a white substance, which was probably a compound of lead. The jury returned a verdict of death from lead-poisoning, and recommended that retailers of herb beer should not convey it through lead pipes.

Cumberland Infirmary.

The collection made last year by the Ladies' Association amounted to £365. This sum has been a great addition to the funds of the institution. A considerable portion of the collection consisted of sums under one shilling. The collection is to be made in September annually. It is thus evident that much can be done by organisation and well-directed zeal.

Handsome Gift to Kirkby Lonsdale.

Dr. Paget-Tomlinson, of Biggins Hall, Kirkby Lonsdale, has made the handsome gift to the Kirkby Lonsdale Grammar School of £1000, to be applied by the governors as they may deem best for the promotion of its educational efficiency. The gift is in memory of Miss Tomlinson, to whose extensive estates in Westmoreland, Yorkshire, and Lancashire the donor lately succeeded. Dr. Paget-Tomlinson was formerly in practice in Birkenhead.

A "Cure" for Goitre.

A correspondent in the *Newcastle Weekly Chronicle*, quoting Henderson's "Folk Lore of the Northern Counties," says that the body of a suicide who had hanged himself in Hesilden-dene, not far from Hartlepool, was laid in an outhouse waiting for a coroner's inquest. The wife of a pitman at Castle Eden Colliery, suffering from a wen in the neck, acting on the advice given her by a "wise woman," went alone and lay all night in the outhouse with the hand of the corpse on the wen. She had been assured that the hand of a suicide was an infallible cure. The shock given to the nervous system during that terrible night was so great that she did not rally for some months, and eventually died from the wen. This happened about the year 1853, under the cognisance of the Rev. Canon Tristram.

Newcastle-on-Tyne, Sept. 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The New Appointments at the Royal Infirmary, Edinburgh.

As has been mentioned before, the managers of the Royal Infirmary, on the recommendation of the staff, are to appoint three additional assistant physicians. The gentlemen already in the field as candidates are Dr. G. A. Gibson, Dr. A. Bruce, Dr. Murdoch Brown, Dr. R. W. Phillip, Dr.

Ralph Stockman, all of Edinburgh, and Dr. Allan Gray of Leith. The appointments are to be made early in October.

Scarlet Fever in Edinburgh.

At a meeting of the Town Council last week Baillie Russell, M.B., in submitting the health returns of the city for August, referred to the threatened spread of scarlet fever, as seen by an increase in the number of intimations, and stated that a circular had been sent to the head masters of board schools giving the names of families in which fever existed, and asking them not to receive members of these families into school without a doctor's certificate showing they were free from infection. The medical officer of health would supply the necessary certificate when desired. He also referred to the carelessness with which children were exposed when peeling, and said the offence was punishable in the police court, and that it was necessary to enforce the Act.

The Edinburgh Dean of Guild Court and the Royal Infirmary.

The Dean of Guild Court had before it last week the plans for building a nurses' home attached to the Royal Infirmary. It was intimated that the Court was unanimously of opinion that the application be refused, the reasons being that the space was originally intended as a breathing space, and that the new building would be too close to part of the present one. The case was continued to see if the managers could not get a more suitable site. What the outcome of this may be is not known; but if the Court has power to enforce its decision it will be awkward for the Infirmary, as the addition has been commenced, and the managers must, of course, have carefully considered the matter before deciding on the proposed addition. The profession is strongly represented on the management.

Health of Edinburgh.

The death-rate last week was 15 per 1000. Out of a total of 76 deaths, diseases of the chest accounted for 28, zymotic diseases for 12, of which 1 was due to typhoid, 3 to diphtheria, 2 to scarlatina, 1 to measles, 4 to whooping-cough, and 1 to erysipelas. The intimations for the week included 2 cases of typhoid, 9 of diphtheria, 27 of scarlatina, and 9 of measles. The continued high mortality from whooping-cough is worthy of note.

The Chair of Chemistry at Aberdeen.

For the chair of chemistry, rendered vacant by the death of Professor Carnelly, the following gentlemen are said to be candidates: Mr. Henry Lloyd Snape, Professor of Chemistry, University College of Wales, Aberystwith, and County Analyst for Cardiganshire; Mr. Alexander Scott, D.Sc., F.R.S.E., F.C.S. Durham; Mr. W. W. S. Nicol, D.Sc., Mason College, Birmingham; and Mr. Dobbie, Professor of Chemistry, Bangor College, Wales. The appointment is in the hands of the University Court.

The Aberdeen Royal Infirmary.

At a meeting of the directors of the Aberdeen Royal Infirmary, held on the 10th inst., Dr. George M. Edmond was appointed chloroformist to the institution, in place of Dr. M'Kenzie Booth, who was lately appointed assistant visiting surgeon. For the post of chloroformist there were seven applicants, but it is said that the contest really lay between Dr. Edmond and Dr. MacGregor, and that the former was elected by the casting vote of the chairman.

Health of Aberdeen.

In his monthly report to the Town Council, Dr. Matthew Hay states that the death-rate for August is the lowest monthly death-rate in the year, and is less by nearly 6 per 1000 than that for July. As compared with the same month in the previous ten years, the past month exhibits a death-rate from all causes which is under the average by 1·64 per 1000, and is lower than in any year except in 1885 and 1889. For the week ending on Saturday, the 13th inst., 31 cases of zymotic diseases were reported to the medical officer of health—there were 26 cases of scarlet fever, 1 of typhoid fever, and 4 of whooping-cough. The city is now threatened with an epidemic of scarlet fever. In July 21 cases of scarlet fever were reported, in August there were 30, and the increase is being maintained during the current month. Dr. Matthew Hay says: "Cases of scarlet fever have been steadily on the increase for the past two or three months, but more especially during the last month, the number of reported cases having risen from twenty-one in July to thirty in August; and the increase is being maintained during the current month. Several cases of the disease have only become known to us through the vigilance of the sanitary officers, the cases not having been attended by a medical practitioner, and therefore not reported. In the majority of these cases the affected persons—chiefly children—were moving about freely out of doors, even attending school, while their skin was covered with highly infectious scales or peelings."

Unwholesome Food at Aberdeen.

During the month of August the sanitary inspector reports that 616lb. of beef, 380lb. of mutton, 1015lb. of fish, and 160lb. of veal were seized as unwholesome food and destroyed with the owners' consent.

The Scottish Universities Act and St. Andrews Medical Degrees.

The Universities Act, having provided for "the formation of a fully equipped conjoint University School of Medicine" in connexion with St. Andrews and Dundee, the Council of University College have authorised their representatives in the University Court to urge the desirability of abolishing the privilege which the University at present possesses of granting an M.D. degree annually to ten practitioners over forty years of age.

Fife and Kinross Asylum.

A proposal to erect a new block for this asylum was before the board last week. The cost is estimated at £12,000, but no definite action was taken at the meeting.

New Asylum at Gartloch.

The first sod for a new asylum at Gartloch, under the City of Glasgow District Lunacy Board, was cut last week by the chairman of the board. It is to accommodate 500 patients, and the building is estimated to cost £70,000. The extent of ground is 347 acres.

Edinburgh, Sept. 16th.

DUBLIN.

(FROM OUR OWN CORRESPONDENTS.)

Central Asylum for Criminal Lunatics, Dundrum: Expenditure for Stimulants.

THE deaths last year were only five, all from natural causes, showing a percentage of 2·56 on the total number in the asylum. Dr. Ashe, resident medical superintendent, in his report for last year, refers especially to the large amount of stimulants and other extras ordered by the visiting physician over and above the ordinary diet. The extras so ordered consisted of eggs and butter for breakfast, porter for dinner, &c., and amounted to a cost of over £100. Dr. Ashe does not think that it is desirable to provide stimulants for strong young men able to work on the farm or other occupations. He states that he called the attention of the visiting physician during the year to the fact that the vote for victualling would necessarily be exceeded in consequence of the large amount of extras ordered, but without result. It is obvious, he remarks, that as far as possible he is bound to conform to his wishes in the matter; yet had it not been that very exceptional and unusual savings accrued under sub-heads, one of which cannot possibly accrue again, the total expenditure under the vote would have been exceeded to a large amount, and for this excess he would have been held presumably liable by the Treasury. Dr. Ashe is of opinion that the whole question of extra diet will require early consideration.

Testimonial to Mr. J. J. Murphy.

Mr. J. J. Murphy, medical officer of the Dublin Civil Service Medical Aid Association, has been presented with an address and purse of sovereigns. The members also entertained him at dinner last week.

St. Vincent's Hospital.

For the past two months extensive works in relation to the drainage and sewerage of this institution have been in progress, at an expenditure exceeding £1000. A system of sewerage easily accessible has been adopted, air-tight manholes having been placed for the purposes of cleansing and inspection. The hospital lavatories and laundries have also been entirely renewed.

National Library of Ireland.

This building, which was recently inaugurated by his Ex

cellency the Earl of Zetland, has a frontage of 116 ft. in one direction and 200 ft. in another. The reading-room is 70 ft. long by 60 ft. wide, lit by electricity, and can provide accommodation for about 250 readers. It must be acknowledged, however, that it has a somewhat bare and uncomfortable look, due to a great extent to the wretchedly inferior furniture it contains. Sir William Gregory, one of the trustees, has said "the old chairs and tables would hardly be exposed for sale in the shabbiest shop in Liffey-street." The floor is of oak laid on concrete. Round the walls are alcoves with books for reference, other books being outside the reading-room, but adjacent, and arranged in lateral wings, on free standing presses only 3 ft. asunder, and in parallel rows; none on the walls. These presses are of such a height that the books are within reach of the outstretched arm. When the wing provided for in the original scheme has been built, there will be accommodation for about 600,000 books, or about two-fifths of the number contained in the library of the British Museum.—Mr. Deane, the architect of the National Library and the Science and Art Museum, has received the honour of knighthood at the hands of His Excellency the Lord-Lieutenant.

Dublin, Sept. 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Galvano-cautery in Purulent Ophthalmia.

PURULENT OPHTHALMIA, when seen sufficiently early and before any ulceration of the cornea has had time to develop, will generally give way before the usual lotions and mild cauterisation with nitrate of silver. The outlook may, however, be different when these cases are seen late, and when more or less extensive ulceration of the cornea has been set up; for their vision may be seriously threatened, if even the organ should escape total destruction. It is in such cases as these that M. Abadie has reaped admirable results from the use of the galvano-cautery. For instance, a lad of twenty came amongst the out-patients with his eyes in a lamentable condition, the result of gonorrhœal contagion. There was a history of three weeks' duration of this state of things. Both corneæ were extensively ulcerated, and so deeply that the anterior chambers were invaded, while even the iris had not escaped, but was infiltrated, and had the appearance of being covered with a greyish membrane. The conjunctivæ and eyelids generally were so involved that it was with difficulty the latter could be everted. The case being considered desperate, it was deemed useless to pursue the routine treatment. Rapid arrest of the destructive process was attempted by means of the galvano-cautery, which was freely applied to the suppurating surfaces, while the milder cauterisation by silver nitrate was repeated twice daily. Eserine drops as well as iodoform insufflations were from time to time had recourse to, while boric acid lotions were frequently applied. This was the sum of the treatment which was vigorously kept going for five consecutive days. At the end of this time quite a transformation was effected. The eyelids could be opened freely, the sclerotic was assuming a normal aspect, while the corneal defect was being rapidly repaired and the anterior chamber closed in. Then after three months of further application of spray douches the two corneæ had become so far transparent that a double iridectomy was undertaken after recovery, from which the patient was able to read average print and has since resumed his occupation of stonemason. Another case was that of a man fifty-eight years of age, who contracted a purulent ophthalmia which owned a similar cause to the foregoing, but who presented himself the third day afterwards for advice. He was ordered the silver nitrate treatment for eight days, at the end of which time his eyes appeared out of danger. Milder lotions were substituted, but the patient, feeling himself, as he thought, altogether cured, was remiss in his attention to instructions, with the result that the whole mischief was rekindled, if anything more intensely than before, for the discharge became very abundant. This time, however, the application of silver nitrate was powerless to prevent the development of an extensive corneal ulceration, which progressed with such rapidity that the urgency for more energetic measures was evident if the cornea was to be saved from destruction. The galvano-cautery was therefore applied for four days in succession, while the nitrate of silver and iodoform applications were kept up as in the previous case. Eserine was not used, as the anterior chamber was not here involved. In six days the ulceration was no longer visible. The patient is still under observation and the douche treatment. The cornea, which was saved from perforation, is opaque at the borders, but the centre is perfectly transparent, and vision is relatively good. The advantages of the galvano-cautery have already been shown in the treatment of perforating ulcers with hypopyon. The method of Sæmisch may be with advantage replaced by the cauterisation of the ulcerated surface by penetrating with the galvano-cautery through the centre of the ulcer to the anterior chamber, and thereby readily liberating the hypopyon. In conclusion, it is claimed for the galvano-cautery, combined with the application of a 2 to 3 per cent. solution of silver nitrate, that it is quite possible to cure all forms of purulent ophthalmia, whatever may be their gravity, and that even in cases where the cornea may be seriously involved, and where, under older views and methods, it would be deemed as irrevocably lost.

Quinine in Sea-sickness.

M. Charles Richet records that he has used this substance with marked benefit in sea-sickness. The subject was a personal friend extremely susceptible to sea-sickness. The result of the treatment recommended to him by M. Richet was excellent, for everyone on board was said to be suffering save himself. M. Richet suggests that the beneficial action of the quinine in these cases may be somewhat similar to its analogous action in Ménière's disease, where many times the symptoms resemble closely those of sea-sickness. He advises that a gramme be taken about two hours before embarking. At the same time he is careful to add that other well-recognised and often successful precautions should not be neglected, such as the recumbent position, with plenty of fresh air &c. Here, then, according to M. Richet, we have another infallible remedy added to the thousand and one well-established ones. Surely after this sea-sickness will be a thing of history!

Poisoning by Cocaine.

A death attributed to this alkaloid has recently been recorded in Lille. A dentist had injected a solution of cocaine—the strength of which, however, does not transpire—into the gums of a young lady patient, for the purpose of deadening the pain of extraction. In a few minutes the patient expired. Three medical men who were called in agreed that in all probability death was caused by the cocaine, but they also ascertained that the deceased was an extremely nervous, excitable, and susceptible subject. The authorities are investigating the affair.

Paris, Sept. 15th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Uniform Nomenclature in Anatomy.

THE establishment of a uniform nomenclature in anatomy, which was taken in hand by German anatomists about a year ago, has now become an international affair; and the committee appointed for the purpose, which has hitherto consisted exclusively of Germans, now numbers three foreign members—namely, Lebouecq of Geneva, Cunningham of Edinburgh, and Romiti of Pisa. The expenses of the task are to be borne by the learned corporations of Germany, because the Anatomical Society, which began it, does not possess the necessary funds. The Prussian, Bavarian, and Saxon Academies of Science have contributed 1500 marks (nearly £75) each, the Academy of Vienna 1000 guldens (about £85), and the Anatomical Society 1000 marks (nearly £50). The completion of the work will be entrusted to a commission, presided over by Professor von Kölliker of Würzburg. The preliminary work is to be done by an anatomist of special qualifications, including the necessary philological attainments.

German Death-rates.

The death-rates of the principal German cities in the week ending August 23rd were as follows:—Aix-la-Chapelle, 33·7; Altona, 19·1; Barmen, 14·7; Berlin, 31·2; Bremen, 23·9; Breslau, 48·8; Chemnitz, 46·1; Dantzic, 37·1; Dresden, 35·1; Dusseldorf, 35·1; Elberfeld, 15·0; Frankfort-on-the-Maine, 18·3; Hamburg, with its suburbs,

22·5; Hanover, 26·8; Cologne, 34·6; Königsberg, 38·2; Krefeld, 36·1; Leipsic, 42·8; Magdeburg, 45·3; Munich, 38·4; Nürnberg, 30·2; Stettin, 35·1; Strasburg, 31·9; Stuttgart, 24·5. A comparison of these figures with the death-rates of the same or the preceding week—of Amsterdam, 18·7; Budapest, 29·9; Dublin, 20·5; Copenhagen, 20·3; Liverpool, 25·2; London, 19·2; Paris, 20·3; St. Petersburg, 23·2; Warsaw, 27·5; and Vienna, 20·0—gives rise to reflections by no means flattering to the Germans. The average death-rate of the German cities of more than 100,000 inhabitants in the week in question was 31·43; that of the ten other European cities named, all of which have a population of more than 300,000, was only 22·48.

A New Biological Station

The biological station on the Plöner See in Schleswig-Holstein, the first for the investigation of the fauna and flora of an inland lake, will be opened next April. Dr. Otto Zacharias of Hirschberg, who has been engaged for several years past in investigating the fauna of the North German lakes, is to be the head of the station. The total area of the Plöner See is 809 square kilometres, and its greatest depth is about 60 metres. The Prussian Ministers of Education and Agriculture have promised considerable contributions for the next five years.

Professor Paul Ehrlich.

Dr. Paul Ehrlich, who has recently been appointed professor of medicine in Berlin University, was a pupil of the pathologist, Julius Cohnheim. His exact knowledge of chemistry, and especially of aniline pigments, has enabled him to pursue with signal success the paths opened up by Robert Koch. His first important investigation was that of the blood-corpuscles. He extended in some particulars the knowledge of the red blood-corpuscles, and showed that one must not regard the blood-corpuscles as of equal value, but must strictly distinguish certain classes among them. In 1880 he discovered the necessity of distinguishing basic from acid aniline pigments, a discovery which contributed to Koch's discovery of the tubercle bacillus in 1882. Soon after this important event Ehrlich invented a method which considerably facilitated the demonstration of the presence of tubercle bacilli. Another important contribution of Ehrlich's to medical science and practice was the observation that certain not yet known aromatic substances which are found in the urine in certain diseases react in certain ways when treated with sulphodiazo-benzole, a fact which has proved of importance in the diagnosis of typhoid fever. Ehrlich has also made a special study of the biological effects of methylene blue. He has used this substance in investigating the impregnation of the various tissues of the bodies of animals with oxygen. In the course of these experiments he discovered that methylene blue reacts on living nerve tissue in a special way, which enables one to distinguish sensory from motor nerves. He has recorded the results of his investigation of methylene blue in a treatise entitled "The Necessity of Oxygen for the Organism." He has also published clinical observations and experimental studies of hæmoglobinuria, the infarcts of the heart, typhus, pleurisy, degeneration of ganglion cells, poisoning by phosphorus, &c. He is thirty-seven years of age.

The Sixteenth Meeting of the German Society for the Promotion of Public Health.

The discussions of the sixteenth general meeting of the German Society for the Promotion of Public Health began on the 11th inst., at 9 A.M., at Brunswick, with Burgomaster Boetticher of Magdeburg, in the chair. About sixty German and foreign cities, including Vienna, Salzburg, and Christiania, were represented. The Hall was crowded. I must, however, reserve a full account of this sitting for my next letter.

Berlin, Sept. 15th.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION. The next class for the training of regimental stretcher-bearers will be held at the headquarters of the London Scottish Rifle Volunteers, Victoria-street, S.W., commencing on Monday, Sept. 29th, 1890, at 7.30 P.M. Officers, non-commissioned officers, and men who are efficient can obtain application forms from either of the hon. secretaries, R. R. Sleman, ambulance sergeant, Artists' Rifle Volunteers, 7, St. Benet-place, Gracechurch-street, E.C.; or C. J. Downer, colour-sergeant, London Scottish Rifle Volunteers, Glenholme, Willesden-park, N.W.

Medical News.

RABIES IN IRELAND.—The Boyle correspondent of the Dublin *Express* says:—"Rabies has attacked the Boyle harriers, and several of the dogs have been shot."

THREE medical men who were charged with carrying out regulations connected with the cholera epidemic in Spain were recently set upon by the populace and murdered.

A SMALL-POX HOSPITAL FOR MIDDLESBROUGH.—An inquiry into the application of the Middlesbrough Town Council for sanction to borrow £1254 for the purpose of purchasing a site and erecting thereupon a small-pox hospital was conducted by Col. Walter. M. Ducat, R.E., and Dr. F. W. Barry, both of the Local Government Department, the inspectors, will report to the Local Government Board in due course.

CONVALESCENT HOMES.—At Todmorden, on the 13th inst, a convalescent home, which has been erected through the munificence of the two Misses Ormerod, daughters of the late Mr. Abraham Ormerod of Todmorden, was opened by Lady Eleanor Cicely Clifton. The building is situated at the junction of Clifton Drive with Todmorden-road, St. Anne's-on-the-Sea, and is a fine specimen of domestic architecture.—On the 10th inst., the Marquis of Bristol presided at the inauguration of a new wing added to the Felixstowe Convalescent Home through the liberality of Mr. W. Cuthbert Quilter, M.P. A large company assembled upon the occasion.

ASSOCIATION OF PUBLIC SANITARY INSPECTORS.—This Association will visit the crematorium at Woking, Surrey, on Saturday, Sept. 27th. An address will be delivered by J. C. Swinburne Hanham, Esq., barrister, secretary of the Cremation Society, on the subject early in the ensuing session, in view of which Mr. Hanham has consented to receive the members who attend on that occasion. Special accommodation will be reserved in the train which leaves Waterloo Station at 2.12 P.M. on the date in question. Application for railway tickets may be made to Samuel C. Legg, 117, Powerscroft-road, N.E., if possible not later than the 20th inst.

STROUD HOSPITAL CENTENARY.—Rejoicings commemorative of the foundation of Stroud Hospital gave this town a gay aspect on Saturday last. The centenary of the hospital was distinguished by the laying of the memorial stone by George Holloway, Esq., M.P., of a new wing which is in course of erection. A large number of ladies took advantage of the occasion to endeavour to raise money by the sale of flowers and by collection for the funds of the hospital. The first Hospital Saturday in Stroud was so successful that there is every prospect of its becoming an annual event. In the afternoon a monster procession was formed by members of public Societies and representatives of local industries, who marched to the hospital, where many speeches were delivered.

THE M'LEAN HOSPITAL, DUNFERMLINE. — At a meeting of the Dunfermline Parochial Board last week, Lord Elgin drew attention to a matter affecting the M'Lean Hospital. It seems that the Combination Poorhouse is in need of alterations and additions, and it is proposed to allow this hospital, at present used as a fever hospital, to be transferred from the Parochial Board to the Combination Board, according to certain references dealing with the value of the hospital, and questions of law connected with such negotiations. It was objected that possibly the Burgh Local Authority, the business of which was now vested in the County Council, ought to be consulted in the matter, and further, that such a transference would leave Dunfermline with an infectious disease hospital. Ultimately it was decided that, unless there was very urgent need for the change which was proposed being made, it would be better for the Parochial Board to agree to the reference, subject to the condition that the Combination Board and the M'Lean trustees agree to communicate with the district committee of the County Council and the Burgh Local Authority.

NEW HOSPITAL FOR THIRSK.—Colonel Dawnay, M.P., opened on Tuesday a new hospital at Thirsk, which has been erected by Miss Lambert of Sowerby at a cost of £2000, and is endowed with £220 a year.

MYSTERIOUS DEATH OF A MEDICAL MAN.—Mr. Paul Belcher, L.R.C.P. Lond., M.R.C.S., L.S.A., was found in bed in an unconscious condition on Wednesday morning last. Efforts were made to restore animation, but without avail. A small bottle containing hydrocyanic acid was found on the dressing table, and a medicine glass which had contained the poison was standing on a pedestal by the side of the bed. He was fifty-five years of age, and had been educated in King's College, London. At one time he was house surgeon to the Great Northern Hospital, London, and was senior surgeon at the Burton Infirmary, with which he had been connected from its foundation.

BEQUESTS.—The late Miss Sophia Barwise of Sandringham House, Margate, bequeathed £100 to the Infirmary at Ramsgate.—Mr. E. Hammond, late of Bradford, left by his will £500 to the Bradford Infirmary.—The late Miss Elizabeth Mary Mimpriss of Davies-street, Berkeley-square, bequeathed the following legacies (free of duty)—namely, to the St. George's Hospital, £1000; to the Hospital for Consumption, Fulham-road, £50; to the Home for Incurable Children, Maida-vale, £100; to the Home for Crippled Girls, Marylebone-road, £100; to the All Saints' Convalescent Hospital, Eastbourne, £100; to the Gordon Hospital, Vauxhall Bridge-road, £500; to the Hospital for the Paralysed and Epileptic, Queen-square, £200; and to the Free Cancer Hospital, Fulham-road, £100.—The late Mr. C. Goding of Knightsbridge bequeathed £500 each to the St. George's and the Cancer Hospitals.—Mr. H. J. Baddeley, late of Sydenham, bequeathed £500 to the London Hospital.—Mrs. Eliza Ormrod, late of Wyersdale Park, Garstang, left by her will £1000 to the Albert Asylum, Lancaster.—Mr. James Carolan left £100 to each of the following institutions: Mater Misericordiæ Hospital and Jervis-street Hospital, Dublin; and Mater Infirmorum Hospital, Belfast.—Mr. Henry C. Horner bequeathed £250 to the Hospital for Incurables and £250 to the Convalescent Home, Stillorgan.—The City of Dublin Hospital has received £500 under the will of the late Mr. J. Murland.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on September 16th, 1890.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	293	54	..	64	3	414	442
North-Western Hospital	320	35	..	20	1	376	415
Western ,,	115	9	..	8	..	132	262
South-Western ,,	153	..	..	..	..	153	340
South-Eastern ,,	252	25	1	36	3	317	462
Northern ,,	393	19	..	..	..	412	480
Totals	1526	142	1	128	7	1804	2401

SMALL-POX.—*Atlas* hospital ship, 1.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BARTON, GEO., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Fulbeck District of the Newark Union.

BERNAU, H., M.R.C.S., L.R.C.P. Lond., has been appointed Second Assistant Medical Officer to the St. Marylebone Infirmary, vice N. Faichnie, resigned.

BIRKENHEAD, HAROLD, L.R.C.P. Lond., M.R.C.S., has been appointed Senior House Surgeon to the Royal Infirmary, Wigan, vice Lomas, resigned.

BISHOP, WILLIAM, L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Cottage Homes of the Elham Union.

BLUETT, JOHN, M.R.C.S., has been reappointed Medical Officer of Health for the Borough of Chesterfield.

CARTER, WELDON C., M.D. & L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon to the Royal Infirmary, Wigan, vice H. Birkenhead, M.R.C.S., L.R.C.P. Lond.

COOPER, WM., M.R.C.S., has been reappointed Medical Officer of Health for Widnes.

DUKE, ALLEN F., M.R.C.S. &c., late Senior House Surgeon to the Cheltenham General Hospital, has been appointed Resident Surgeon to the Branch Dispensary, Cheltenham, vice F. Mason, resigned.

EDRIDGE-GREEN, F. W., M.D., B.S., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon to the *Shannon*, Peninsular and Oriental Steamship Company.

ESSERY, WM. J., M.B. Durh., M.R.C.S., has been appointed Medical Officer for the Penryn District of the Falmouth Union, vice Rowley, resigned.

FARQUHARSON, W. F., M.B., C.M. Edin., late Assistant Medical Officer to the Cumberland and Westmoreland Counties' Asylum, has been appointed House Surgeon to the Dundee Royal Infirmary.

GODFREY, W. SIMPSON, M.R.C.S. &c., has been appointed Senior House Surgeon to the Cheltenham General Hospital, vice Allen F. Duke, resigned.

GREIG, DAVID M., M.B., C.M., F.R.C.S.E., has been appointed Demonstrator in the Anatomical Department of the University College Dundee.

HODGE, W. T., M.R.C.S., has been appointed Medical Officer for the Middle and Baschurch Districts of the Ellesmere Union, vice Corke, resigned.

HUBBARD, A. O., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon and Secretary to the Royal Isle of Wight Infirmary, vice B. C. Oldham, resigned.

LEIGH, WM. W., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Merthyr Tydvil and Treharris District of the Merthyr Tydvil Union.

MATTHEWS, HARRY E. HAMERTON, L.R.C.P.E., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the No. 9 District of the Chorlton Union, vice W. Clarence Matthews, M.R.C.S., L.M.R.C.S., & L.S.A., resigned.

PARRY-JONES, M., M.D. Lond., M.R.C.S., has been appointed Medical Officer for the Fifth District of the Mansfield Union.

PECK, E. G., M.A. Cantab., L.R.C.P. Edin., has been reappointed Medical Officer of Health to the Northowram Local Board.

REDMOND, THOS. O'CONNELL, L.R.C.S., L. & L.M. K.Q.C.P. Irel., has been appointed Medical Officer for the Midland Great Western Railway, Dublin District.

ROUSE, EUSEBIUS ROUSE, M.R.C.S., L.R.C.P. & L.S.A. Lond., has been appointed Assistant Medical Officer to Camberwell House Asylum, vice H. Martyn Eames, L.R.C.S. & P. Edin., resigned.

STOKES, ARTHUR S., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Weldon District of the Oundle Union, vice Pink.

WEATHERBE, LEWIS J., M.B., C.M., has been appointed Assistant House Surgeon to the Rotherham Hospital and Dispensary, vice W. G. Boase, M.R.C.S., L.R.C.P., resigned.

WEBBER, EDWARD S., M.B. Camb., M.R.C.S., has been appointed Medical Officer for the Sixth District of the Hollingbourn Union, vice McDougall, resigned.

WILKINSON, P. J., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Norton District of the Leek Union.

[IN our announcement last week of the appointment of Mr. F. C. Larkin, the letters following the name should have been F.R.C.S., not M.R.C.S.]

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester-street, S.W.—House Surgeon. Board, lodging, and washing.

BETHLEM HOSPITAL.—Two Clinical Assistants for six months. Apartments, rations, and attendance.

BIRMINGHAM CITY ASYLUM, Rubery-hill, near Bromsgrove.—Clinical Assistant. No salary, but board and residence provided.

BIRMINGHAM GENERAL HOSPITAL.—Assistant House Surgeon for six months. Board, lodging, and washing.

BLYTHING UNION, Halesworth, Suffolk.—Medical Officer for the Workhouse. Salary £50 per annum, exclusive of midwifery and vaccination fees. (Apply to Mr. C. White, the Clerk, Bulcamp.)

BOLTON INFIRMARY.—Junior House Surgeon. Salary £100 per annum.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon. Salary £40 per annum, with board and apartments.

CLAYTON HOSPITAL, Wakefield.—House Surgeon; salary £90 per annum, with board, lodging, and washing. Also Junior House Surgeon, registered and unmarried; £25 per annum, with board, lodging, and washing.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Resident Medical Officer. Salary £50 a year, with board and rooms.

INFIRMARY FOR CONSUMPTION AND DISEASES OF THE CHEST AND THROAT, 26, Margaret-street, W.—One Physician-in-Ordinary; also one Surgeon.

MESSRS. GRUNING & CO., Liverpool.—A young Doctor for the Gold Coast (West Africa), to attend on the *employés* of a Gold Mining Company.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Two Examiners in Public Health. The present Examiners are eligible for re-election.

ROYAL SOUTH LONDON DISPENSARY, St. George's-road, Lambeth, S.E.—Surgeon to the Waterloo District. Honorarium £20 per annum.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, Newcastle-on-Tyne.—Demonstrator of Anatomy. Salary £100 per annum.

Births, Marriages, and Deaths.

BIRTHS.

BRAIDWOOD.—On Sept. 14th, at Shirehampton, Bristol, the wife of P. Murray Braidwood, M.D., of a daughter.

BORROWMAN.—On Sept. 11th, at Galle Face Cottages, Colombo, Ceylon, the wife of Philip Grierson Borrowman, M.B., C.M., of a son.

HOSKYN.—On Sept. 10th, at Ashley-avenue, Belfast, the wife of Donald T. Hoskyn, Surgeon, R.N., of a daughter.

MARTIN.—On Sept. 13th, at 10, Mansfield-street, Cavendish-square, W., the wife of Sidney Martin, M.D., of a son.

PINCOTT.—On Sept. 13th, at Calverley-parade, Tunbridge Wells, the wife of J. Cole Pincot, M.R.C.S., L.R.C.P., L.M., of a daughter.

MARRIAGES.

BLACKBURN—SUTTON.—On Sept. 10th, at Prince's-street Congregational Church, Norwich, Herbert Blackburn, L.R.C.P., L.R.C.S., second son of the late James Blackburn, C.E., of Calcutta, to Emily May, second daughter of Francis Sutton, F.I.C., F.C.S., of Norwich.

CLARKE—HAYWARD.—On Sept. 13th, at St. George's, Hanover-square W., Thomas Furze Clarke, M.R.C.S. &c., of Horsmans-place, Dartford, to Jessie Field, second daughter of John Camden Hayward, of Monk's Orchard, Wilmington.

DUGON—GOODWIN.—On Sept. 10th, at St. Alphege Church, Greenwich, Francis Dugon, M.R.C.S., F.R.C.P., of London, to Mary, only daughther of Henry Goodwin, Esq., of Burghley House, Blackheath-hill, S.E.

GOODMAN—TINGEY.—On Sept. 10th, at St. Peter's, Forncett, by the Rev. T. Dacre Chute, Thomas Herbert Goodman, M.R.C.S. &c., Hilgay, eldest son of Charles Goodman, of Sydenham, Kent, to Mary, third daughter of George Tingey, of Fordham, Norfolk.

HENDERSON—LANE.—On Sept. 13th, at St. George the Martyr, Queen's-square, W.C., by the Rev. H. Wesley Dennis, assisted by the Rev. Dacre Craven, George William Henderson, of London, to Mary Sophia Lane ("Sister Miriam"), of the Hospital for Sick Children, Great Ormond-street, W.C.

PRALL—NORTON.—On Aug. 30th, at West Malling, Kent, by the Rev. Harry Hayman, Vicar of Edwinstowe, Notts, cousin of the bride, assisted by the Rev. J. Timins, Vicar of West Malling, John Henniker Prall, M.R.C.S., L.R.C.P, of Bampton, Berks, second son of John Thomas Prall, of Eastgate, Rochester, to Lucy, eldest daughter of W. South Norton, of West Malling.

SIDEBOTTOM—PARTINGTON.—On Sept. 3rd, at St. James's, Whitfield, Glossop, Ralph Bennett Sidebottom, M.R.C.S., L.R.C.S., L.R.C.P., to Alice, eldest daughter of Edward Partington, Esq., J.P., of Glossop.

SKELDING—WOOD.—On Sept. 16th, at St. Margaret's Church, Leven, Fife, N.B., by the Rev. A. Thomson Grant, Incumbent, Henry Skelding, Esq., B.A., M.B. Camb., M.R.C.S. Lond., of St. Loyes, Bedford, second son of Joseph Skelding, Esq., M.R.C.S. of London, and Tenterden, Kent, to Marion Isabella, third daughter of the Rev. James Wood, of Buccleuch-place, Edinburgh, and of Brae Lodge, Largo, Fife, N.B.

ST. LEGER—BRETT.—On Sept. 16th, at the Parish Church, Watford, by the Rev. R. Lee James, D.C.L., Vicar, Robert Arthur St. Leger, M.B., C.M. Edin., fourth son of F. Y. St. Leger, Esq., Cape Town, to Annie Beatrice, third daughter of A. T. Brett, Esq., M.D., Watford House, Watford, Herts.

STOTT—TOLSON.—On Sept. 10th, at St. Mary's, Luddenden, by the Rev. J. S. Boteson, M.A., assisted by the Rev. H. Robinson, M.A., Frederick William Arthur Stott, B.A.Oxon., L.S.A.Lond., elder son of William J. Stott, M.D., of Deansgrove, Haslingden, to Mary Louisa, second daughter of Henry C. Tolson, Magson House, Luddendenfoot.

WHICHER—D'ARCY.—On Sept. 11th, at St. John's, Blackheath, James Charles Francis Whicher, Surgeon R.N., eldest son of the late James Whicher, M.D., Deputy Inspector-General R.N., to Isabella Frances, second daughter of the late Rev. Hyacinth D'Arcy, of Kiltullach House and Clifden Castle, co. Galway.

DEATHS.

BARBER.—On Sept. 15th, at 5, Hounsfield-road, Sheffield, Jonathan Barber, M.R.C.S., Consulting Surgeon to the Sheffield General Infirmary, in his 74th year.

CLARKE.—On Sept. 14th, at East Ferring House, Goring, Sussex, Vans Christian Clarke, M.D., M.R.C.P., R.N., some time Governor of H.M.'s Prison, Woking.

FRENCH.—On Sept. 10th, at Lansdown-place, Cheltenham, James French, M.R.C.P.Lond., formerly of Neath, Glamorganshire, in his 78th year.

HUME.—On Sunday, Sept. 7th, at Edinburgh, Surgeon-Major Thomas Hume, Indian Medical Service, Madras Presidency, aged 38 years. Friends will please receive this (the only) intimation.

MODLIN.—On Sept. 12th, at Shanklin, I.W., Robert Modlin, M.R.C.S., aged 61.

SWINBURNE.—On Sept. 14th, at Victoria-street, S.W., J. Digby M. Swinburne, Surgeon 19th Bengal Lancers, youngest son of Major-General J. D. Swinburne, aged 29.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

BOOKS ETC. RECEIVED.

ALLEN, W. H. & Co., Waterloo-place, London.
Lessons on Health: containing the Elements of Physiology, and their Application to Hygiene. By Arthur Newsholme, M.D., D.P.H.Univ. Lond. 69 Illustrations. 1890. pp. 187.

BLACK, ADAM & CHARLES, Edinburgh.
The Collected Writings of Thomas De Quincey. New and Enlarged Edition. By David Masson. Vol. XI.: Literary Theory and Criticism. 1890. pp. 474.

BLACKIE & SON, Old Bailey, London.
Blackie's Modern Cyclopædia of Universal Information. Edited by Charles Annandale, M.A., LL.D. Vol. VII.: Pot—Ska. pp. 512.

HEYWOOD, JOHN, Manchester and London.
The Nurse's Guide to Massage. By Samuel Hyde, L.R.C.P., M.R.C.S. pp. 43. Price 1s. 6d.
The River Irwell and its Tributaries. By G. E. and A. R. Davis. pp. 96. Price 2s. 6d.

HIRSCHWALD, AUGUST, Berlin.
Diagnostik der Krankheiten der Verdauungsorgane. Von Dr. Hans Leo. Mit 28 Abbildungen. 1890. pp. 340.

KEGAN PAUL, TRENCH, & Co., London.
Air-Analysis: A Practical Treatise on the Examination of Air. With an Appendix of Illuminating Gas. By J. A. Wanklyn and W. J. Cooper. 1890. pp. 82.

MARINE BIOLOGICAL ASSOCIATION, Plymouth.
A Treatise on the Common Sole (solea vulgaris) considered both as an Organism and as a Commodity. Prepared for the Marine Biological Association of the United Kingdom, with plates, by J. T. Cunningham, M.A., F.R.S.E. 1890. pp. 147.

OFFICE OF THE ASSOCIATION, Elizabeth-street, Sydney.
Report of the First Meeting of the Australian Association for the Advancement of Science, held at Sydney, New South Wales, in August and September, 1888. Edited by A. Liversidge, M.A., F.R.S., and Robert Etheridge, jun.

PERCIVAL & Co., King-street, Covent-garden, London.
Influenza, or Epidemic Catarrhal Fever. A Historical Survey of Past Epidemics in Great Britain from 1510 to 1890. By E. Symes Thompson, M.D., F.R.C.P. 1890. pp. 490. Price 21s.

POONA ORPHANAGE PRESS.
The Students' Chemistry. In Two Volumes. Vol. I.: Inorganic. Vol. II.: Qualitative Analysis. pp. 414—63.

PREUSS, J. A., Zurich.
Handbook to the Health Resorts of Switzerland. By H. Loetscher, M.D. With Maps. Fourth Edition. 1890. pp. 311.

SAMPSON LOW & CO., and EDWARD STANFORD, London.
Madeira and the Canary Islands. A Practical and Complete Guide for the use of Invalids and Tourists. With 9 Maps. By A. S. Brown. Second Edition. pp. 130. Price 2s. 6d.
The Orient Line Guide. Edited by W. J. Loftie, B.A., F.S.A. Fourth Edition, revised. With Maps and Plans. pp. 360. Price 2s. 6d.

SHAW & SONS, Fetter-lane, London.
The Law relating to Medical Practitioners in England, as well in Private Practice as in Public Offices. By Jos. Craven, Barrister-at-law, assisted by T. Coppock, M.A., LL.B. Cantab. 1890. pp. 289. Price 7s. 6d.

SWAN SONNENSCHEIN & Co., Paternoster-square, London.
A Household Dictionary of Medicine. By Frederick H. Walters, M.D. Lond. pp. 379.

WHITING & Co., Sardinia-street, London.
Ophthalmic Hints: Diagnosis and Treatment of Affections of the Eye commonly met with in General Practice. By A. St. Clair Buxton. 1890. pp. 51.

The Vagus Treatment of Cholera, as exemplified in returns from the Cholera Hospitals of Malta during the Epidemic of 1887; by A. Harkin, M.D., F.R.C.S. (Henry Renshaw, 356, Strand, London, 1890).—Beiträge zur Augenheilkunde; von Professor R. Deutschmann; Heft 1; mit 10 Abbildungen im Text (Leopold Voss, Hamburg und Leipzig, 1890).—Zur Lehre von den Contagiosen Infectionskrankheiten; von Dr. Ernst Reger; mit 63 lithographirten Tafeln (H. Kornfeld, Berlin, N.W., 1890).—Recherches Cliniques et Thérapeutiques sur l'Épilepsie, l'Hystérie, et l'Idiotie; par Dr. Bourneville, M. Sollier, et M. A. Pilliet; Vol. X. (Lecrosnier et Babé, Paris, 1890).—Cœliotomy: This, and not Laparotomy, is the proper Greek synonym of "Abdominal Section," Laparotomy being an incision of the Flank only; by Robert P. Harris, A.M., M.D. Philadelphia (W. J. Dornan, Philadelphia, 1890).—An Investigation into the Etiology of Phthisis; by H. Gibbes, M.D., and E. L. Shurly, M.D.—The British Columbia Medical Register, 1890 (Munro Miller, Johnson-street, Victoria, B.C.).—Transactions of the American Dermatological Association at its annual meeting at Boston, Mass., September, 1889 (Stettiner, Lambert, & Co., New York).—The Asclepiad; by B. Ward Richardson, M.D., F.R.S.; No. 27, Vol. VII. (third quarter), 1890 (Longmans, Green, & Co., London); price 2s. 6d.—De la Fiebre Amarilla; por le Doctor M. Dagnino (Maracaibo, Tipografia de "Los Ecos del Zulia," 1888).—Journal of the Leprosy Investigation Committee; edited by P. S. Abraham, M.A., M.D.; No. 1, August, 1890 (Macmillan & Co., London); price 2s. 6d.—Report of the Working Men's College, Melbourne, for 1889 (Arnall & Jackson, Melbourne).—Prostitution und Abolitionismus; Briefe von Dr. B. Tarnowsky (Leopold Voss, Hamburg und Leipzig, 1890).—Handels-Berichte; von Gehe & Co., in Dresden-Neustadt; September, 1890 (C. C. Meinhold & Söhne, Dresden).—Grand Canary; its Climate and Springs; by J. Cleasby Taylor, M.B. Edin., M.R.C.S. (J. Richardson & Co., Leicester).—Should Hypnotism have a recognised place in ordinary Therapeutics? by Norman Kerr, M.D., F.L.S. (H. K. Lewis, London); price 1s.—Magazines for September: Good Words, Sunday at Home, Leisure Hour, Sunday Magazine (Isbister), Boy's Own Paper, Girl's Own Paper (Religious Tract Society), Scribner's, Lippincott's.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 18th, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 a.m.
Sept. 12	30·29	N.E.	58	54	81	69	54	..	Hazy
,, 13	30·26	N.W.	55	54	95	70	52	..	Foggy
,, 14	30·27	N.E.	61	57	98	69	52	..	Hazy
,, 15	30·13	S.W.	59	56	114	75	53	..	Bright
,, 16	30·03	S.E.	62	58	116	78	56	..	Hazy
,, 17	29·94	S.E.	62	58	110	75	58	..	Hazy
,, 18	29·91	S.W.	62	60	110	68	60	·31	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

MEDICAL BOOKKEEPING.

WE have received the following replies to a correspondent who, in our last issue, expressed a desire to be informed of the best system of bookkeeping for a non-dispensing practice:—

W. W. H. writes: "In my opinion the 'A. B. C.' system of bookkeeping introduced and supplied by Mr. B. Allsop, *Shipley Times* Office, Saltaire, Yorks, is the most convenient in existence. The books are kept with the least expenditure of time and labour."

Dr. W. Towers Smith suggests that Letts' or any other similar diary is perhaps as useful as any. Each day's visits are recorded in the usual way and at the end of the week summed up on one side of the sheet, and the payments are recorded in red on the other. No ledger is required, and it forms a complete record of work.

Dr. W. B. Brodie.—The National Vaccine Establishment is a Government institution, maintained at the public expense for the purpose of supplying medical practitioners with lymph; but it is not intended to do more than to give assistance from time to time by enabling them to vaccinate the first of a series of infants, and to cultivate the lymph they require for their own purposes.

NOCTURNAL ENURESIS.

To the Editors of THE LANCET.

SIRS,—Would any of your numerous readers kindly give me some hints as regards the successful treatment of the following case?

A little boy aged nine, robust and intelligent, the son of healthy parents, who has had the habit since birth of constantly voiding urine, night and day, wetting himself and clothes at all hours without giving notice. He can, if threatened with punishment, abstain from doing so during the day, but every night he "wets his bed." The boy looks the picture of health. The usual forms of treatment and management for such cases have been adopted. Circumcision was performed two years ago, but with no beneficial effect. Any hint for his future treatment will be thankfully received.

I am, Sirs, yours faithfully,

Sept. 13th, 1890. SURGEON.

THE EFFECT OF DARKNESS ON NUTRITION.

THE *Medicinische Chirurgische Rundschau* reports an interesting communication by an ophthalmic surgeon, Dr. S. Klein, to the Medical Association of Vienna, on the effect of darkness in a case of retrobulbar neuritis, in which, after the author had ordered treatment in the dark, marked increase of appetite and nutrition occurred, both of which had been previously much impaired. He confirmed this observation afterwards by a whole series of experiments, and consequently suggests treatment in the dark for cases in which it is desirable to increase the nutrition and appetite.

DISPENSING OF MEDICINES.

ON this subject *T. Cameron, M.B., C.M.* (Hull), sends us a communication, for the whole of which we are unable to find space. After quoting several passages from the address of Mr. Umney at Leeds, our correspondent submits the following proposals:—

"1. That a Bill be introduced into Parliament by our medical representatives there by which (to begin with the root of the evil) no medical man holding a registered diploma shall dispense or give out to patients in any way medicines which he may consider necessary for the treatment of such patients. An exception only to be made in such cases (*a*) as require immediate relief, when sufficient medicine for twenty-four hours' use may be given, but must not be renewed, except through a chemist by prescription; (*b*) where a chemist does not live within five miles of the patient; and (*c*) where medicines are administered by an operative procedure, such as hypodermic injection, application of medicated pessaries, injections, &c.—2. No chemist shall be allowed to suggest, prescribe, or in any way to influence any person in the choice of drugs; but he may, when asked specifically for any drug (other than those which are poisonous), dispense the same, when the name and special preparation of the drug must be written plainly on the label. If any medicine of a compound nature is asked for, the formula for the same must also be written plainly on the label. This rule also to apply to patent medicines, but the manufacturers of such patent medicines to continue to have the right of stamping their names on their preparations in such a manner as can be protected by registration. Before these compounds are registered they must be approved by medical officers appointed by the Local Government Board as being safe remedies in the hands of the public when they are not under the direct care of a medical practitioner.—3. A prescription only to be dispensed by a chemist when it is signed by a registered medical practitioner, who shall sign his name in full, with his address, in each case. When the chemist has dispensed the prescription, he shall also sign his name with his address. When so signed, the prescription is not to be dispensed again, either by the same or any other chemist, unless re-signed by the practitioner. A chemist to be held responsible if he dispenses a prescription signed by an unregistered person. A severe fine (say, £50) for each offence to be enforced both in the case of medical men and chemists. Further rules with regard to surgical appliances would have to be added. What constitutes a drug would also have to be specially defined."

Practitioners would, he holds, benefit by (1) increased practice arising from the total suppression of irregular practice, both as regards chemists and others, and (2) by the intolerable trouble and expense of dispensing being done away with; chemists, by their legitimate occupation being restored to them, and their false position as a species of quack removed; the public, by being thoroughly protected against injurious and dangerous drugs, whilst still leaving open to them in the most free manner the use of useful domestic remedies.

Mr. P. Butler-Stoney.—Our correspondent will find the subject which he mentions discussed generally in an annotation which appeared in our impression of last week. On the specific question put, we have no information beyond what is already public property. It does not appear to us that the present is a perfectly suitable time for discussing the question of nursing systems. That will be dealt with comprehensively when it can be treated with reference, not merely to one great hospital, but to a sufficient number of the great hospitals to afford adequate material for comparison and review.

THE COMPARATIVE DIETETIC VALUE OF NEW AND OF SKIMMED MILK.

To the Editors of THE LANCET.

SIRS,—Being much interested in an industrial school where there are 275 boys, to whom it is proposed to give a gill and a half of skimmed milk each day—not separated milk—instead of a gill of new milk, which they have been accustomed to receive, may I ask through your valuable columns whether such a change would be for the benefit of the boys, or otherwise? I have my doubts on the question.

I am, Sirs, yours faithfully,

Sept. 14th, 1890. A. Z. A.

PARISIAN VAPORISER COMPANY.

IN our notice of this vaporiser in our last issue the address of the Company from whom the instrument may be obtained should have been given as St. Martin's House, 29, Ludgate-hill, E.C.

Mr. Andrew Hingston.—We think that in the circumstances described our correspondent's claim for additional travelling expenses was most reasonable. But it is difficult, perhaps impossible, to say precisely where the line should be drawn. The safest plan probably in a case where a medical man is asked to proceed to a distance for the purpose of examining a person for life assurance is to have beforehand a clear understanding with the agent who gives instructions as to a special allowance for travelling expenses.

Z. Y. X. may obtain assistance by consulting our advertising columns.

PROF. VIRCHOW ON THE CAT IN ANTIQUITY.

WAS the cat, as a fireside pet, known to the ancients? If it was, was it as the domestic animal familiar to ourselves, or was it simply as a domesticated savage, like the monkey or the gazelle? Prof. Virchow inclines to the latter opinion. Having examined the mummies of Egyptian cats, he found they had nothing in common with our feline friend. The cats of antiquity, according to other archæologists, were slenderer than ours, and approached the weasel in appearance. But Signor Saglio, the distinguished Italian scholar who is engaged on the magnificent "Dictionary of Greek and Roman Antiquities" now in course of publication at Paris, under the editorship of Daremberg, read the other day before the Academy of Inscriptions a memoir on the subject, in which he holds a contrary opinion to that of Virchow. The cat in ancient times was, he maintains, the identical domestic animal known to modern Europe. On Etruscan tombs he has found paintings which represent the cat as a regular inmate of the house of the deceased, one of these pictures showing us a company at dinner, and the cat toying under the table with bones of chicken or partridge. Signor Saglio further refers Prof. Virchow to the British Museum, where on two water jars belonging to the fifth century B.C. domestic cats are depicted in a "Scuola di Musica." Of these cats one is held by a string and another stands upright on a footstool while a boy offers it a dainty. There are other pictorial representations, according to the accomplished Italian archæologist, which prove that the cat was cherished in antiquity as one of the most useful, as well as graceful, domestic animals, inspiring the affection bestowed on it by eminent persons of all times—from Mahomet to Petrarch, from Montaigne to Hoffmann and Dumas.

S. Haigh will see that his communication, for which we are obliged, is referred to in another column.

Dr. W. R. Dix.—Barlow and Berry's article in Keating's Cyclopædia of Diseases of Children.

DR. SCHWENINGER'S SANATORIUM AT HEIDELBERG.

To the Editors of THE LANCET.

SIRS,—Having lately spent nine days in the above dietetic and gymnastic *Kur* establishment, under the direction of a physician well known throughout Europe from his connexion with Prince Bismarck, perhaps a few details of the treatment may not be uninteresting or useless to the wide circle of your readers, lay and professional.

The institution stands on a most commanding site, 224 metres above sea level, and just beyond the romantic ruins of the old Castle of Heidelberg, with magnificent views of the valley of the Neckar and surrounding woods and mountains. The air is markedly purer and more bracing than in the town, which is not unaffected by occasional mists from the Neckar. The building is a very fine one, with terraces, garden, and other accessories, which make it a most eligible residence for the chronic invalid, and the walks in the neighbourhood are all that can be desired for picturesque beauty and interest. The bedrooms and public rooms and gymnasium are excellent, and all the arrangements, domestic and hygienic, as also the attendance and attention to the comfort of the patients, are exceptionally good, the *cuisine*, though simple, being particularly so, quite equal to that of high-class continental hotels. The only disadvantage, at least as I found it, is the steep climb from the town; indeed, in all directions the hills must be faced. But this, in most of the chronic ailments treated in the Sanatorium, is held to be an advantage, as part of the "cure." On admission the patient is subjected to a careful examination by the resident assistant surgeon, Dr. Badt. Dr. Schweninger himself, who resides at 100, Zimmerstrasse, Berlin, only pays periodical visits to Heidelberg, during which he has a conscientious consultation on every individual case. A paper of directions as regards food, exercise, and rest is handed to each inmate subsequently to the medical examination, the essential points of which, in my own case, are here appended:—6.30 A.M.: Rising; cold bath and free towel friction over the whole body. 7 A.M.: Staff and dumb-bell exercise for an hour, with frequent rests. 8 A.M.: Rest and gentle exercise. 8.30 A.M.: First breakfast (meat, eggs or milk). 9 A.M.: Work at the *Zug* apparatus. 9.30 A.M.: Rest and gentle exercise. 10 A.M.: A walk. 10.30 A.M.: Second breakfast (meat or fish and a glass of white wine). 11 A.M.: Work at the *Ergostat* (a kind of crank) for half an hour. At noon a walk, and at 1 P.M. dinner (meat, vegetables, and fruit *compote*). During the afternoon some additional gymnastic work is done, and at 7 P.M. supper of one dish of meat and fruit *compote* or salad, with a glass of white wine or, in some cases, beer. Meals, as a rule, are taken without drinking, fluids being only used some time afterwards; though in my own instance this rule was not insisted on. In many cases at 4.30 P.M. a slight additional meal is recommended, thus making four meals a day, which in my own case I found impracticable. Weight, strength, and chest-girth are tested weekly. Coffee, tea, soup, shell fruit (*Hülsenfrüchte*), potatoes, rice, and red wine are, as a rule, prohibited.

I may mention that the Sanatorium closes for the season on the 15th. Indeed, there are some doubts if it will be further continued, the premises being probably converted into a *pension*.

I am, Sirs, yours faithfully,

Heidelberg, Sept. 13th, 1890. R. LEWINS, M.D.

THE STUDENTS' NUMBER.

Bristol Royal Infirmary.—We have been requested to add the following information to our reference to this infirmary on page 516 of our Students' Number. After the words "in weekly rotation," referring to the resident dressers, the words "free of expense" should be added. In the details regarding prizes the value of the midwifery prize is £3 3s., not £8 8s.

Fairplay.—The proposed arrangement does not appear to be illegal; but it seems to us to be a very unsatisfactory one, and not at all calculated to promote the public interest or the best interests of the institution. A hospital which makes exceptionally hard terms with its house surgeons is little likely to secure the best available men, nor is the adoption of arrangements which savour strongly of sweating a course which the judicious friends of a charitable institution should recommend in its interest.

"A CAUTION."

To the Editors of THE LANCET.

SIRS,—Since you were kind enough to insert my caution respecting a man calling himself "Dr. J. G. Davies" I have received letters from several medical men inquiring about him. He has since leaving me acted as *locum tenens* for two gentlemen I know of, and has caused a very great amount of unpleasantness in their practices. In the interest of the profession will you allow me to append a description of the man, as he has on each occasion changed his initials? He is an Indian by birth, of dark appearance, tall, of slight build, has a prepossessing manner, and is well over forty years of age.

I am, Sirs, yours truly,

Mile End-road, E., Sept. 13th, 1890. W. F. GRANT, M.D.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a letter under the above heading, in your issue of July 26th last, from Dr. W. F. Grant, concerning a man calling himself "Dr. J. G. Davies," who, falsely representing himself to be a qualified registered practitioner, applies for the post of *locum tenens*, and who produces several written testimonials. I wish to supplement that caution by stating that as his Christian name seems to vary, it may be advisable to state that he is an East Indian by birth, over forty years of age, and of spare frame. Unfortunately for myself, not having seen Dr. Grant's letter, I engaged a "Dr. *G. Wm.* Davies" to take charge of my practice for a few days; and as my suspicions were aroused on my return, I made inquiries, and found that he was the same individual. Both Dr. Grant and myself engaged him from the same address—20, Silver-street, Bloomsbury. Hoping that this letter will prevent others being taken in,

I am, Sirs, yours faithfully,

Old Ford-road, E., Sept. 16th, 1890. F. T. BENNETT, M.R.C.S. &c.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Althaus, London; Dr. Prowse, Bristol; Dr. Lediard, Carlisle; Dr. M. Handfield Jones, London; Dr. T. Oliver, Newcastle-on-Tyne; Dr. Schaffer, New York; Mr F. Treves; Dr. Paterson, Dundee; Messrs. Newbery and Sons, London; Dr. W. Fraser, Manchester; Mr. Connan, Tunbridge Wells; Dr. Thresh, Chelmsford; Dr. Drzewiecki, Krakow; Dr. Suffeen, Worcester; Dr. Murrell, London; Dr. J. R. White; Messrs. Dawson and Sons, London; Mr. J. M. Sh'ah, Junagadh; Messrs. Maclehose and Sons, Glasgow; Dr. Boucher, Hertford; Messrs. Dickinson and Co., London; Dr. Leggatt, London; Messrs. Burroughs, Wellcome, and Co., Holborn; Mr. Butler-Stoney; Dr. Dix, Jarrow; Mr. Richmond Leigh, Plymouth; Mr. A. Winterbottom, London; Messrs. Yates and Sons, Worcester; Mrs. Fuller, Croydon; Messrs. Kegan Paul and Co., London; Mr. Lawrence Hamilton, London; Messrs. Eason and Son, Dublin; Mr. Hingston, Liskeard; Mr. Hurd, Guildford; Mr. B. Thornton, Margate; Mr. F. T. Bennett, London; Dr. H. Mackenzie, London; Dr. Morotti, London; Dr. C. Mercier; Dr. W. F. Grant, London; Dr. Yorke-Davies, Sherborne; Mr. H. Parrati, Rhyl; Mr. J. Murray, London; Mr. Manby, Wolverhampton; Mr. H. P. Hawkins, London; Mr. Alexander, Dundee; Mr. Martin, Blackburn; Mr. C. Wilkes, London; Mr. Williams, Cardiff; Mrs. Fa, Pyrmont; Mr. C. Hill, London; Dr. Sykes, Rotherham; Mr. Wood, Windsor; Mr. Cox, Herts; Mr. Campbell, Victoria; Mr. Barnett, Worcester; Dr. Ridge, Enfield; Dr. Freer, Birmingham; Miss Crowly, Ireland; Mr. Liston, Wolverhampton; Dr. MacAdam, Edinburgh; Mr. Joynson, Upton-on-Severn; Mrs. Osborn, Appleford; Mr. Winter, Caistor; Mr. Huish, Clapham; Dr. Braidwood, Bristol; Dr. Spearing, Antrim; M. Charcot, Paris; Mr. Hodgson, London; Dr. Skerritt, Bristol; Messrs. Orridge and Co., London; Mr. Cornish, Manchester; Messrs. Blades, East, and Co., London; Mr. Moorhead, Carrington; Mr. Macdonald, Cockburnspath, N.B.; Mr. Morgan, Cleveland; Mr. Clark, Morpeth; Mr. C. Birchall, Liverpool; Dr. Whitaker, Edinburgh; Union Assurance Office, London; Justice; Fairplay; A Member of the Medical Staff of the Hospital; Secretary, School of Massage, London; Sanitary Engineering Co., Westminster; Surgeon; A. Z. A.; Matron, Greenwich Hospital; W. W. H.; E., Swansea; C. N., London; Sell's Advertising Agency, Limited, London; W. E. P., London; Secretary, Cheltenham

General Hospital; L. V., London; Zeta, London; Clerk, St. Asaph Union; Immediate, London; Belgrave, Newhaven; Secretary, Isle of Thanet Joint Hospital; Fides, Warwick; Editor, *Le Journal de Médecine*, Bruxelles; G. P., Middlesbrough; Beth, London; Church View, Burringham; D. W., Savannah, U.S.A.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Brown-Chard; Mr. Bullock, Southampton; Mr. Odell, Hertford; Mr. Hall, Hertford; Miss Osborn, Abingdon; Mr. Arnold, London; Mr. Gawn, Stockport; Mrs. Carson, Eastbourne; Mr. Young, London; Mr. J. Joyce, jun., Blackford; Mr. Purland, Woolwich; Messrs. R. Bentley and Son, London; Mr. O'Meara, Loughborough; Messrs. Brady and Martin, Newcastle-on-Tyne; Mr. Ehrmann, Southam; Messrs. Gale and Co., London; Mr. Baron, Manchester; Messrs. Clarke, Son, and Platt, London; Col. McLoughlin, Newcastle-on-Tyne; Messrs. Clapp and Son, Providence, R.I.; Dr. Letters, Kenmare; Mr. Evans, Maryport; Mr. Ward, Salisbury; Dr. Skardon, Dorset; Mr. Richards, Llanberis; Mr. Harris, Reigate; Mr. Stott, Haslingden; Mr. Harries, Llanelly; Mr. Clarke, Egremont; Mr. Dixey, Falmouth; Mr. Tully, Hastings; Mr. Thomas, Lambeth; Mr. Milnes, Litcham; Mr. Tyte, Minchinhampton; Mr. Mackintosh, Culdine, N.B.; Mr. Woodroff, Reading; Mr. Moxon, Matlock; Mr. Warters, Alfreton; Mr. Dowell, London; Mr. Peacock, Watford; Mr. Davies, Glynycoed; Mr. Tasker, Sheffield; Mr. Rowlands, Merioneth; Dr. Martin, London; Mr. Pim, Langworth; Mr. St. Leger, Watford; Mr. Hewson, Notts; Mr. Orr, Manchester; Dr. Clark, Mottram; Dr. Evans, Festiniog; Dr. Wood, Pontypool; Mr. Brookes, Salop; Mr. Hall, Leominster; Mr. Neale, Sandown, I.W.; Mr. Heywood, Manchester; Messrs. Wright and Co., Bristol; Dr. Hughes, Ashton-under-Lyne; Mr. Nicholls, Bury St. Edmunds; Mr. Cartwright, Manchester; Mr. Lawrence, Stamford-hill; Mr. Cottingham, London; Mrs. Hume, London; Mr. Manthorpe, Rochester; Mr. Barber, Sheffield; Mr. Bonad, Cornwall; Dr. Purdie, Bethnal-green; Mr. Richards, Barmouth, N.W.; Mr. H. J. Holman, London; Dr. Coombs, Bedford; Mr. Gibson, Edinburgh; Mr. Wilson, Edinburgh; Mr. Smith, co. Down; Mr. Clapham, Halstead; Mr. Brook, Bloomsbury; Mr. Cochrane, Wigtonshire; Mr. Considine, Clare; Delta, London; J. X., London; Companion, Westmoreland; Canary Islands, London; L.A. Surgeon, London; R. D., Stockport; Hackney Furnishing Co.; Festino, London; J. L., Clare; Secretary, Merthyr General Hospital; Sigma, London; A. B. C., London; M.D., South Hampstead; Diplo, London; T. C., London; Secretary, St. John's Hospital, London; Matron, Carnarvon; R. T. R., London; Medicus, London; Sister, London; K. Q., London; W. J. A., London; Beta, London; Pyrmont, London; Medicus, Plymouth; W. H. W., Bradford; Bromum, Bristol; Medical Officer, Stronsay; M. R., Birkenhead; R. G., Blackpool; H., London; Opening, London; Robert, London; F. K., London; P., London; Medicus, Margate; Medical Officer, Mexborough; A. B. C., London; Mrs. H., Louth; Cerebrum, London; X. Y. Z., Wigan.

NEWSPAPERS.—*Dundee Advertiser, Manchester Guardian, Newcastle Daily Chronicle, Pullen's Kent Argus, Indian Engineering, Kilkenny Journal, Islington Gazette, Sunday Times, Sheffield Daily Telegraph, Builder, West Middlesex Standard, Liverpool Daily Post, Windsor and Eton Gazette, Bristol Mercury, Devon Evening Express, Broad Arrow, Saturday Review, Hertfordshire Mercury, Architect, Corriere d'Nalia, Manchester Courier, Oldham Standard, Law Journal, Leeds Mercury, Chemist and Druggist, Metropolitan, Spectator, Guy's Hospital Gazette, Reading Mercury, Weekly Free Press and Aberdeen Herald, Windsor and Eton Express, Local Government Chronicle, Civil Service Guardian, Pharmaceutical Journal, City Press, Surrey Advertiser, North British Daily Mail, South Wales Daily News, Commonwealth, Sussex Daily News, Scotsman, Yorkshire Post, Hull News, Wiltshire County Express, Irish Times, West Middlesex Advertiser, Durham Chronicle, Norfolk Standard, Indian Medical Gazette, North Wales Observer, Sunderland Herald, Scottish Leader, Liverpool Courier, Carlisle Journal, Fulham Advertiser, Darwen Post, Overland Mail, Dartford Express, Building News, Sunderland Daily Echo, North Cumberland Reformer, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, September 22.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operation daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, September 23.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, September 24.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, September 25.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, September 26.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, September 27.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year	£1 12 6	Six Months	£0 16 3
TO CHINA AND INDIA		One Year	1 16 10
TO THE CONTINENT, COLONIES, AND UNITED STATES		Ditto	1 14 8

Post Office Orders and Cheques should be addressed to The Publisher, THE LANCET Office, 423, Strand, London, and crossed "London and Westminster Bank, St. James's-square."

ADVERTISING.

Books and Publications (seven lines and under)	£0 5 0
Official and General Announcements	0 5 0
Trade and Miscellaneous Advertisements	0 4 6
Every additional Line	0 0 6
Front Page per Line	0 1 0
Quarter Page	1 10 0
Half a Page	2 15 0
An Entire Page	5 5 0

The Publisher cannot hold himself responsible for the return of testimonials &c. sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.